

Robert K.G. Temple

The Sirius Mystery

Was earth visited by intelligent
beings from a planet in the system of
the star Sirius?



VISIT...

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Robert Temple was born in the United States in 1945. He attended the University of Pennsylvania in Philadelphia, and graduated in 1965 with a degree in Oriental Studies and Sanskrit.

THE SIRIUS MYSTERY is his first book; he spent eight years researching and writing it. Robert Temple is a Fellow of the Royal Astronomical Society.

TO MY MOTHER

who has persevered

Robert K. G. Temple

The Sirius Mystery

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R.K.G.T.

Author's Note

Every effort has been made to trace the ownership of all illustrative material reproduced in this book. Should any error or omission in acknowledgement have been made the author offers his apologies and will make the necessary correction in future editions.

Foreword, to the Futura Edition

This edition of my book has been abridged. The general reader will not miss what has been removed, but anyone wishing to use the book for research purposes, and who needs the full references, will have to consult the hardback edition. There he will also find fuller explanations of many matters as well as an account of the ancient oracle centres. I have abridged this book myself, with the considerable assistance of my wife Olivia, whom I wish to thank for her patience and care in helping to decide what the general reader would not require. I doubt that many readers will object that the reading of my book has been made easier for them. For that was the intention. Many friends tried to read the hardback version of this book and told me with pained expressions on their faces that they wished a simplified version existed. I have therefore had no compunctions about making *The Sirius Mystery* accessible to readers who have neither the time nor the temperament to scrutinize ancient Greek, Egyptian hieroglyphics, and a great many details which are not really necessary except to critical or scholarly readers.

At the time of writing this, *The Sirius Mystery* is being translated into seven foreign languages. It has been received favourably by many persons whose opinions I highly respect. Certain scientists have agreed to try and search for a radio signal from the system of Sirius which might be a way in which we could have some final proof that what I suggest is really true. I am very pleased that they considered my case sufficiently respectable to warrant such investigation with a radio-telescope. I have been requested by them not to mention this in such

a way that they could be criticized by the severer and more conservative of their colleagues who think such searches for signals from intelligent beings in space are a waste of time and resources. I shall therefore regretfully refrain from saying here who is carrying on this search.

What will happen when a signal really is confirmed, whether it be from Sirius or from anywhere else in space for that matter? I feel certain that the day will come when all large radio telescopes will have to be surrounded by armed guards. No one seems to have realized yet that protection will have to be given to them when they become the only points of contact between ourselves and extraterrestrial civilizations. This need will become less acute when we have radio telescopes in space or on the Moon.

Passions are certainly going to be aroused. These are largely latent at the moment because our acceptance of the existence of extraterrestrial life is still only at the intellectual level. Emotionally, if we are honest, we admit that we really don't believe it. I find this to be the case with myself, and I have not the slightest doubt, at the rational level -. and even at the intuitive level - that intelligent life in space really exists. But I realize that I, along with everyone else I know, am psychologically not at grips with the matter. There are a minority of people who now 'believe in spacemen' with a religious zeal and fervour which I consider disturbing and unwholesome. I am not one of those people. Their fervour is hysterical in origin, and their belief fulfils an irrational craving which is often a need to provide a substitute for religion. Many of these people have lost their religious faith and have decided that 'spacemen' are the answer. Inevitably these spacemen become 'visiting gods'. With this opinion I am most vehemently at odds. I am convinced that no matter how advanced and superior any extraterrestrial beings may be, it would be nonsense to think of them as anything other than 'strange folk'. Even if they can accomplish magical things, and have powers of technology or of mind which bedazzle us, they are just fellows as far as I am concerned. I reserve the appellation of 'gods' as being inappropriate to their description. They could land on Earth tomorrow, walk on the water, heal the sick with their hands, raise the dead, and I would not consider them gods. We must be more restrained, and not throw words like 'gods' around so carelessly. I take some comfort from knowing that I have at least got into a state of mind where I refuse to be impressed — and I am determined not to say 'gee whiz!' if I ever do learn startling things about extraterrestrials. That is a

considerable part of the battle to retain one's integrity in the face of what is inevitably going to be a superior civilization.

But some people will unshakeably believe in spacemen as gods, because they will want to believe it for reasons of their own. They will be as impervious to argument as any fanatic ever is. The key word here is *believe*. This word can be used to mean rational opinion, which is casually called 'a belief'. Or it can refer almost to the opposite of this -irrational and fanatical conviction. We therefore have a semantic problem. - 'Do you believe in spacemen?' becomes a question which is almost meaningless, since no one specifies which kind of belief is meant by the question. Obviously, our language collapses into chaos at this point. But then we developed our language ourselves, didn't we?

Major developments are coming which will bring realizations to us which will be with us as long as we endure. Our future as a species is essentially at issue. What are we going to be-? Demoralized wretches, dragging our inferiority complexes along behind us like great sacks of potatoes? Or are we going to summon up our courage and pride? Will we slink along in the galaxy, like weasels? Or are we going to roar? Roar out that we are men, that we may be very bizarre men, but that that's what we are, and we like it - ? These alternatives lie before us as we consider how we are going to treat the news that a signal has been received and confirmed from an extraterrestrial civilization.

Once we have received such a signal, there will be no going back. Growing up, leaving childhood behind, are processes which cannot be reversed. At the moment, we are perilously close to losing our cosmic virginity. We are about to step forth from Eden. We have lived in Paradise and not known it. Life has been an idyll, but we have not realized it as such. Our descendants will look back to our day with awe and incomprehension as the time when we still snuggled in our great World Cocoon, wrapped in our dream'.

A sleeper is convinced he is awake. But then he really does awaken ...

Robert Temple March, 1977

TO THE READER

What is the Mystery?

The question which this book poses is: Has Earth in the past been visited by intelligent beings from the region of the star Sirius?

When I began writing this book in earnest in 1967, the entire question was framed in terms of an African tribe named the Dogon, who live in Mali in the former French Sudan. The Dogon were in possession of information concerning the system of the star Sirius which was so incredible that I felt impelled to research the material. The results, in 1974, seven years later, are that I have been able to show that the information which the Dogon possess is really more than five thousand years old and was possessed by the ancient Egyptians in the pre-dynastic times before 3200 B.C., from which people I show that the Dogon are partially descended culturally, and probably physically as well.

What I have done, therefore, is to push back by over five thousand years the terms of reference of the original question, so that it now becomes more tantalizing than ever. But now that I have done that, it becomes less easy to answer. The Dogon preserve a tradition of what seems to have been an extraterrestrial contact. It is more satisfactory not to have to presume the preposterous notion that intelligent beings from outer space landed in Africa, imparted specific information to a West African tribe, then returned to space and left the rest of the world alone. Such a theory never really struck me as possible. But in the beginning it did have to serve as a working hypothesis. After all, I had no idea that the Dogon could have preserved ancient Egyptian religious mysteries in their culture. I also had no idea that the ancient Egyptians knew anything about Sirius. I was in that state of ignorance so common among people who know nothing more about ancient Egypt than that the Egyptians built pyramids, left mummies, had a Pharaoh named Tutankhamen, and wrote in

hieroglyphs. My own academic background concerned oriental studies, but I never touched on Egypt except regarding the Islamic period after A.D. 600. I knew almost nothing whatsoever about ancient Egypt. If I had, perhaps I might have saved myself a lot of time.

It took many, many months for two or three small clues to work themselves around in my head long enough to force me to study ancient Egypt and a whole range of subjects which I had never previously tackled. I doubt if, even then, I could have been persuaded to spend considerable sums of money such as the necessary fifty pounds for the essential and out-of-print Wallis Budge *Egyptian Hieroglyphic Dictionary*, which consists of 1,356 pages and cannot even be lifted off the table by a ten-year-old child. But as fate would have it, I was actually given one of these huge dictionaries, along with many other essential books on the subjects with which I needed to become concerned. This helped overcome my natural disinclination to erect a camp bed in some scholarly library and move in for a couple of years. I must therefore note my debt to my dear friend the late Miss Mary Brenda Hotham-Francklyn for giving me in the ninety-fourth year of her life what amounted to a sizeable library of books, which were so interesting that I found it impossible to neglect them, and the result is now before us.

This entire matter of the Sirius mystery first came to my attention around 1965. I was working on some philosophical and scientific problems with Arthur M. Young of Philadelphia, the inventor of the Bell helicopter and more recently (1972) co-editor of and contributor to the book *Consciousness and Reality*. Arthur single-handedly taught me more science concurrently with my official university studies from 1961-7 than an entire university faculty might have done. For while I was ploughing my way through the Sanskrit language and other onerous subjects at the official university level, I imbibed a considerable scientific education from Arthur in company with a few friends from the university, with whom I participated for years in a series of extremely stimulating seminars and research projects supervised by Arthur Young and occasionally linked to a philanthropic foundation which he had established, entitled the Foundation for the Study of Consciousness.

Arthur Young had a particular passion for reading about mythologies from all over the world, including those of obscure tribes. One day he showed me a book entitled *African Worlds*, which contained several chapters, each dealing with a different tribe, with its views of life and its customs and mythology.- There was a chapter about the Dogon translated into English from the French of Marcel Griaule and Germaine Dieterlen, the eminent anthropologists.¹

Arthur pointed out to me a passage he had just read in this chapter in which these anthropologists were describing the cosmological theories of the Dogon. I shall quote the paragraph which I read then, which first brought to my attention this whole extraordinary question, so that the reader will begin this subject just as I did, with this brief reference:

‘The starting-point of creation is the star which revolves round Sirius and is actually named the “*Digitaria* star””; it is regarded by the Dogon as the smallest and heaviest of all the stars; it contains the germs of all things. Its movement on its own axis and around Sirius upholds all creation in space. We shall see that its orbit determines the calendar.’

That was all. There was no mention by the anthropologists of the actual existence of such a star which revolves around Sirius. Now, Arthur Young and I both knew of the existence of the white dwarf star Sirius B which actually does orbit around Sirius. We knew that it was ‘the smallest and heaviest’ type of star then known. (Neutron stars and ‘black holes’ were not much discussed and pulsars had not yet even been discovered.) We both naturally agreed that this was a most curious allusion from a supposedly primitive tribe. How could it be explained? I had to let the matter drop, due to other activities and concerns at that time.

Approximately two years later in London, I suddenly was struck by the irresistible urge to investigate this question. I was prompted to do so by reading the rousing futuristic essays of Arthur C. Clarke, whom I had come to know by then. By this time I could not even remember the name of the African tribe, so I wrote to Arthur Young for it. He replied and kindly sent me a photostat of the entire chapter I had seen in *African Worlds*. So, armed with the knowledge that

it was a tribe called the Dogon that I was after, I bravely made my way to the Royal Anthropological Institute to see what I could find out about this peculiar tribe.

The librarian went over the catalogue listings with me and I ran into a problem; everything was in French, and I did not know French. However, I persevered and found an article listed which included the word 'Sirius' in its title. That looked promising (for nothing else did). I asked for a photostat. When I picked this up a week or two later (in early November 1967) I was unable to make any sense of it, of course. So I eventually found someone to translate it for me in return for a fee. Finally I was presented with the material in English - and it was quite as rewarding as I could have wished.² For this article dealt exclusively with the most secret of all the traditions of the Dogon which, after years of living with them, the anthropologists Griaule and Dieterlen had managed to extract from four of their head priests,⁸ after a special priestly conference among the tribe and a 'policy decision' to make their secrets known to Marcel Griaule, the first outsider in their history to inspire their confidence.

The most secret traditions of the Dogon all concern the star which the Dogon call after the tiniest seed known to them, the botanical name for which is *Digitaria*, and which is thus used in the article as the name of the star instead of the actual Dogon name, *po*. However, even in this article which deals exclusively with this subject, Griaule and Dieterlen only mention the actual existence of a star which really exists and does what the Dogon say *Digitaria* does, in a passing footnote and in this brief remark: 'The question has not been solved, nor even asked, of how men with no instruments at their disposal could know the movements and certain characteristics of stars which are scarcely visible.' But even in saying this, the anthropologists were indicating their own lack of astronomical expertise, for the star, Sirius B which revolves around Sirius, is by no means 'scarcely visible'. It is *totally invisible* and was only discovered in the last century with the use of the telescope. As Arthur Clarke put it to me in a letter of 17 July 1968, after he had suggested he would check the facts: 'By the way, Sirius B is about magnitude 8 - quite invisible even if Sirius A didn't completely obliterate it.' Only in 1970 was a photograph of Sirius B successfully taken by Irving Lindenblad of the U.S. Naval Observatory; this

photograph is reproduced in Plate 1.

In the article which I had obtained from the Royal Anthropological Institute, Griaule and Dieterlen recorded that the Dogon said the star Digitalia revolved around Sirius every fifty years. It didn't take me long to research Sirius B and discover that its orbital period around Sirius was indeed fifty years. I now knew that I was really on to something. And from that moment I have been immersed in trying to get to the bottom of the mystery.

Arthur C. Clarke was extremely helpful during the next few months. He wrote from Ceylon and was fairly often in London, so he and I also discussed at great length many of the mysterious facts from around the world which have since been given such public prominence by the Swiss-German author Erich von Daniken in his best-selling book *Chariots of the Gods* and its sequels. At first I found myself preparing a book on all these exciting mysteries. (No one had at that time heard of von Daniken.)⁴ Arthur Clarke introduced me to one interesting professor after another - each with a pet mystery all his own. Derek Price, Avalon Professor of the History of Science at Yale University, had discovered the true nature of the now famous mechanical computer of approximately 100 B.C. found in the Antikythera shipwreck at the turn of the century and unappreciated until it was dropped on the floor in Athens, cracked open and they saw what it was. He also had found traces of Babylonian mathematics in New Guinea and talked a lot about 'the Raffles shipwreck'.

Then there was Dr Alan McKay, a crystallographer of Birkbeck College at the University of London, who was interested in the Phaistos Disc of Crete, in a mysterious metal alloy found in a Chinese tomb, and in the wilder stretches of the Oxus River. I found that, with people like this around every corner, I was rapidly becoming distracted from my true quest by so many glittering riddles.

I therefore abandoned all those mysteries and determined to concentrate in depth on cracking the one really hard and concrete puzzle that I had been initially confronted with: how did the Dogon know such extraordinary things and did it mean that the Earth had been visited by extraterrestrials?

The trouble with trying to undertake a serious investigation about the possibility of extraterrestrial contact with Earth, is that a lot of sensible people will be put off by the very idea. Then again, a lot of the people who will enthusiastically receive my researches with open arms are the sort of people one least wants to be classed with. I have therefore undertaken all the work on this subject with a certain degree of reluctance, and if anyone pressed me during several years to say what I was doing and they extricated from me the confession that I was working on a book, I did not say what it was about, but merely mumbled it was 'about the ancient Egyptians' or, before that stage, 'about the mythology of some tribe in Africa - not very interesting, really'. This book will inevitably, I suppose, put me in that most unenviable category of 'those people who write about little green men from outer space'. However, this is meant to be a serious inquiry. I am tempted to apologize for the subject, but that would be pointless.

It is important that this strange material be placed before the public at large. Since learning was freed from the tyranny of the few and opened to the general public, through first the invention of printing and now the modern communications media and the mass proliferation of books and periodicals and more recently the 'paperback revolution', any idea can go forth and plant the necessary seeds in intellects around the world without the mediation of any panel of approval or the filtering of a climate of opinion based on the currently accepted views of a set of obsolescent individual minds.

How difficult it is to keep in mind that this was not always the case. No wonder, then, that before such things were possible, there were secret traditions of priests which were handed down orally for centuries in unbroken chains and carefully guarded lest some censorship overtake them and the message be lost. In the modern age, for the first time secret traditions can be revealed without the danger that they will be extinguished in the process. Can it be that the Dogon came to realize something of this when, through some powerful instinct and after mutual consultations among the highest priests, they decided to take the unprecedented step of making public their highest mysteries? They knew they could trust the French, anthropologists, and when Marcel Griaule died in 1956, approximately a quarter of a million tribesmen massed for his funeral in Mali, in tribute to a man whom they revered as a great sage - equivalent to one of their own high priests. Such reverence must indicate an extraordinary man in whom

the Dogon could believe implicitly. There is no question but that we are indebted to Marcel Griaule's personal qualities for laying open to us the sacred Dogon traditions. I have now been able to trace these back to ancient Egypt, and they seem to reveal a contact in the distant past between our planet Earth and an advanced race of intelligent beings from another planetary system several light years away in space. If there is another answer to the Sirius mystery it may be even more surprising rather than less so. It certainly will not be trivial.

It should not surprise us that there must be other civilizations in our galaxy and throughout the entire universe. Even if the explanation of the Sirius mystery is found to be something entirely different in the years to come (though I cannot imagine what), we should bear in mind that, as we are definitely not alone in the universe, the Sirius mystery will have served to help us speculate along proper and necessary lines, and opened our innately lazy minds that much further to the important question of extraterrestrial civilizations which must certainly exist.

At the moment, we are all like fish in a bowl, with only the occasional leap out of the water when our astronauts go aloft. The public is becoming bored with space exploration before it has even really begun properly. We even find that Congressmen need continual injection's of 'space rescues' and 'satellite gaps' in their tired bloodstreams, like a heroin fix, in order to stimulate them in their horrible state of lethargy to vote funds for the space programmes which so many of them consider a bore and lacking in excitement and suspense.

The psychological impact of photographs of the Earth from space, a giant and beautiful orb resting on nothing, pearly with clouds and sparkling with sea, has begun to send resonances down the long and sleepy corridors of our largely dragged psyches. Mankind is imperceptibly struggling to the new and undeniable realization that we are all in this game together. We are all perched on a globe suspended in what appears to be emptiness, we are made up of atoms which are mostly themselves emptiness, and above all, we are the only really intelligent creatures directly known to us. In short, we are alone with each other, with all the fratricidal implications of such a tense situation.

But at the same time as we are all slowly realizing these things, the inevitable conclusion which follows upon all this is beginning to make some headway with

us as well. It has begun to occur to more than a handful of exceptional people (exceptionally intelligent or exceptionally insane) that if we are sitting here on this planet fighting among ourselves for lack of any better distraction, then perhaps there are lots of planets all over the universe where intelligent beings are either sitting and stewing in their own juice as we are, or where those beings have broken out of the shell and established contact with other intelligent beings on other planets. And if this is really going on all over the universe, then perhaps it will not be all that long before we find ourselves linked up with our fellows elsewhere - creatures living beside another star out in that vast emptiness which spawns planets, suns, and minds.

For years I have thought that those organizations which spend millions of dollars on 'peace' and attempts to find out what is wrong with human nature that it should indulge in so perverse a thing as conflict, would be better advised to donate their entire treasuries to the space programmes, and to astronomical research. Instead of seminars for 'peace research' we should build more telescopes. The answer to the question: 'Is mankind perverse?' will be known when we can compare ourselves with other intelligent species and evaluate ourselves according to some scale other than one which we fabricate out of the

air. At the moment we are shadow-boxing, chasing phantoms____The

answers lie out there somewhere with other stars and other races of beings. We can only compound our neuroses by becoming even more introspective and narcissistic. We must look outward. At the same time, of course, we must look back relentlessly into our own past. To go forward with no conception of where we have been makes no sense whatsoever. There is also the probability that we may discover mysteries about our own origins. For instance, one result of my research, which began harmlessly with an African tribe, has been to demonstrate the possibility that civilization as we know it was an importation from another star in the first place. The linked cultures of Egypt and Sumer in the Mediterranean area simply came out of nowhere. That is not to say that there were no people alive before that. We know there were lots of peoples but we have found no traces of civilization. And people and civilization are vastly different things. Take for instance these words by the late Professor W. B. Emery from his book *Archaic Egypt*:

At a period approximately 3400 years before Christ, a great change took place in Egypt, and the country passed rapidly from a state of advanced neolithic culture with a complex tribal character to two well-organized monarchies, one comprising the Delta area and the other the Nile valley proper. At the same time the art of writing appears, monumental architecture and the arts and crafts developed to an astonishing degree, and all the evidence points to the existence of a well-organized and even luxurious civilization. All this was achieved within a comparatively short period of time, for there appears to be little or no background to these fundamental developments in writing and architecture.

Now, whether or not one supposes that there was an invasion of advanced people into Egypt who brought their culture with them, the fact remains that when we get back to that period of history we are faced with so many imponderables that we can hardly say anything for certain. What we do know is that primitive people suddenly found themselves living in thriving and opulent civilizations and it all happened rather abruptly. In the light of the evidence connected with the Sirius question, as well as other evidence which has either been dealt with by other authors or remains to be tackled in the future, it must be entertained as a serious possibility that civilization on this planet owes something to a visit by advanced extraterrestrial beings. It is not necessary to postulate flying saucers, or even gods in space suits. My own feeling is that this matter has not been dealt with in a sophisticated enough manner so far. But rather than enter into mere speculation as to what extraterrestrials landed in, etc., let us move on to the evidence that at least indicates that they might have been here. In Part Three we shall consider some details and clues that the extraterrestrial visitors from Sirius, whom I postulate, may have been amphibious creatures with the need to live in a watery environment. But all this gets into the speculative areas which are such treacherous ground. It has always been my policy, as well as my temperamental inclination, to stick to solid facts. We shall see as we proceed just how solid the facts are, and that is a strange enough tale for the moment. As usual, truth has proved itself stranger than fiction. The reader is advised to read Part III of this book for some 'wild speculation'.

The book which now follows poses a question. It does not present, but merely suggests, an answer. In Part One the question is posed in its original form, and in Part Two it is rephrased. But nowhere is it answered with any certainty. The best

questions are the ones which often remain unanswered for a long time and lead us down new avenues of thought and experience. Who knows where the Sirius mystery will lead us in the end? But let us follow it for a while. At the very least it will be an adventure....

Notes

1. *African Worlds*, ed. by Daryll Forde, Oxford University Press, 1954, pp. 83-110. I wish to point out to the reader that in the article in *African Worlds*, the French word *arche* is mistranslated 'arch' and should instead be rendered 'ark'.

2. The translation was, it turned out, extremely inept. The article has been entirely retranslated by a professional translator for inclusion in this book. It has also been vetted by Mme Germaine Dieterlen herself, who has kindly given permission for the publication in English of the entire article written by herself and Marcel Griaule. It is to be found just after Chapter One.

3. Photographs of these four tribal priests are reproduced in Plate 2.1 thought it particularly important that these original native informants be seen by the reader. Apart from the fact that their faces are extremely interesting, we owe these four people a great deal. Without them the public at large might never have known anything about the Sirius mystery, and the entire tradition might, after its thousands of years on earth, actually have sunk without trace. [Note: All four are now dead (1977).]

4. Eric von Daniken entered into correspondence with me on April 22, 1976, after reading my book. He wrote to me saying: 'With great enthusiasm I have read your book *The Sirius Mystery*. I should like to congratulate you for this

masterpiece.... One thing that among scientific circles is hardly known is the fact that already way back in 1959/60/64 and 651 have written several articles on the subject [of extraterrestrial visitation] which were published in various newspapers (for your information I am enclosing a copy of such an old article).’ He enclosed a photostat of an article by him in German, published in 1964. My statement that nobody had heard of von Daniken at this stage is therefore misleading; for in the German-speaking world he was already writing about extraterrestrial visitations for newspapers.

PART ONE

The Sirius Question is Posed

S.M.—2

CHAPTER ONE

The Knowledge of the Dogon

If you look up at the sky, the brightest star you can see is Sirius. Venus and Jupiter are often brighter, but they are not stars; they are planets going round our own sun, which is a star itself. Now no astronomer will tell you there is any particular reason for intelligent life to be in the area of Sirius. The reason Sirius is so bright is that it is large and close, bigger than the sun and bigger than the handful of other nearby stars. But an intelligent astronomer will tell you that perhaps the stars Tau Ceti or Epsilon Eridani, which are rather similar to our sun, have planets with intelligent life. It would be a good guess. But among the stars most frequently discussed as possibly harbouring intelligent life, Sirius is not included. It is not a particularly 'obvious' choice.

Project Ozma in the spring of 1960, and, in more recent years, other radio searches for intelligent life in space, listened for meaningful signals from the stars Tau Ceti and Epsilon Eridani. But none were detected. Not that that proves anything but that these two nearby stars were thought by some sensible astronomers to be possible locations of intelligent life in our neighbourhood of space.¹ Project Ozma only listened to these two stars to see if any signals were coming from them on a certain wavelength at a certain time with a lot of energy behind them. Nothing happened. Later such attempts have more realistically widened their scope somewhat, but the astronomers are folly aware that they are waltzing in the dark, and their efforts really take on the nature of a gesture which can only be described as bravado in the face of enormous odds. They cannot be certain that they are going about the task in the right way, but are doing what they hope is their best. Since Project Ozma, the giant radio telescope at Arecibo in Puerto Rico, which is the largest in the world, has listened selectively to several stars - but not to Sirius. It is the author's hope that the evidence presented in this book will be sufficient to stimulate an astronomical investigation of the Sirius system more thorough than all those to date, and build on the recent studies by Irving Lindenblad.² I also believe that a programme should be

instituted at a major radio telescope to listen to the Sirius system for indications of any possible intelligent signals.

Now the basis of speculations about intelligent life in space is always going to include the possibility that contact with life on our planet has already been made by some more highly evolved society from elsewhere in the universe.³ It is the possibility that our planet has had contact with a culture apparently from the area of Sirius that this book will discuss. There seems to be substantial evidence that at some relatively recent time in the past - possibly between seven and ten thousand years ago - this may have happened, and any other interpretation of the evidence would not seem to make enough sense.

Before we come to the evidence, I should say a little more about Sirius. About the middle of the last century an astronomer was looking rather hard at Sirius over a period of time and got annoyed because it wasn't sitting still.⁴ It was wobbling. He had a difficult time figuring this out, but he finally concluded that an extremely heavy and massive star going around Sirius could make it wobble that way. The only trouble was that there wasn't any large star going around Sirius! Instead there turned out to be a tiny little thing going around it every fifty years, and so Sirius came to be called Sirius A and the little thing became Sirius B.

Sirius B was at that time unique in the universe as far as anyone knew. Over a hundred of these things have now been actually seen scattered around the sky and there are many thousands more which we cannot see even through our modern telescopes because they are so tiny and their light so feeble. They are called white dwarfs.⁶

White dwarfs are strange because although they are feeble they are strong. They do not give out much light, but they are fantastically powerful gravitationally. On a white dwarf we would not even be a fraction of an inch high. We would be flat, pulled in by the gravity. (A cubic foot of the matter of Sirius B would weigh 2,000 tons. A match-box full of matter from the star would weigh a ton and a quarter. But a match-box full taken from the star's core would weigh approximately 50 tons. The star is 65,000 times denser than water,

whereas our own Sun has a density about equal to that of water.) You see, the 'big' star that was necessary to make Sirius A wobble turned out to be a little thing, but it still had to be as massive and heavy as an ordinary star of much more enormous size. It is, in short, a star so dense and closely packed that it is not even made out of regular matter. It is made out of what is called 'degenerate' matter or 'super-dense' matter, where the atoms are pressed together and the electrons squashed. This matter is so heavy that it cannot be thought of in any familiar terms. There is nothing in our solar system, to our knowledge, comparable to this stuff. But physicists have considered it theoretically, and in this century we are making some progress towards understanding it.

It is even claimed by some astronomers that the Sirius system has a Sirius C, or a third star. Fox claimed to see it in 1920, and in 1926, 1928, and 1929 it was supposedly seen by van den Bos, Finsen, and others at the Union Observatory. But then for several years when it should have been seen, it was not. Zagar and Volet said it was there because there were wobbles that pointed to it. So perhaps it's there and perhaps it isn't.⁶

The most recent full study of the Sirius system by an astronomer has been carried out by Irving W. Lindenblad of the U.S. Naval Observatory in Washington, D.C. He and I have corresponded, and he has sent me his publications (the latest appeared in 1973) and also the photograph in Plate 1, which was taken by him in 1970 after several years' preparation and is the first photograph ever taken of the star Sirius B, which in the photograph is a tiny spot of light near the main star Sirius A, which is 10,000 times brighter.

Lindenblad has studied the Sirius system for seven years and has found no evidence of a third star, Sirius C. He says:⁷ 'There is no astrometric evidence, therefore, of a close companion to either Sirius A or Sirius B'. At the moment, as this book goes to press, a study of Sirius B is being carried out by Dr Paul G. Murdin of the Royal Greenwich Observatory, who is trying to measure the light from the tiny star. He had still had no success by early 1974 when he and I entered into correspondence. Murdin has informed me that another astronomer, D. Lauterborn, believes there is a third star in the Sirius system.⁸ Murdin adds: 'Whether the unseen companion of A is the same star C in Aitken⁹ I cannot say'

(from a letter to me of 12 February 1974). Lindenblad's evidence is conclusive as far as it goes, but it is not at all clear that no Sirius C exists. This is an interesting point for further study, and may require observations of longer than Lindenblad's seven years (which were taking place during the seven years I was preparing this book). As Lindenblad has written to me: 'Like Jacob's service for Rachel, the mysteries of Sirius appear to require seven years labour; then we hope not to have received Leah!' But also like Jacob, the seven years may be just a prelude—

Now we see that the Sirius system is rather interesting and complicated. Only in this century have we advanced towards knowing about degenerate matter and understanding white dwarfs through our researches into nuclear physics. So we would be surprised, would we not, if someone without our modern science had known as much about the Sirius system as we do?

At this point I want to quote from an interesting book entitled *Intelligent Life in the Universe* by two eminent astronomers, Carl Sagan, of Cornell and formerly of the Smithsonian Astrophysical Observatory, and I. S. Shklovskii of the Soviet Academy of Science. (Sagan saw a book by Shklovskii and extensively rewrote it in English, and this is the book referred to.) In a very sensible chapter called 'Possible Consequences of Direct Contact' Sagan says:¹⁰,

[Matters of human evolution], while difficult for us to reconstruct from a distance of millions of years, would have been much clearer to a technical civilization greatly in advance of the present one on Earth, which visited us every hundred thousand years or so to see if anything of interest was happening lately. Some 25 million years ago, a Galactic survey ship on a routine visit to the third planet of a relatively common G dwarf star [our Sun] may have noted an interesting and promising evolutionary development: Proconsul [the ancestor of *homo sapiens*, or modern man]. The information would have filtered at the speed of light slowly through the Galaxy, and a notation would have been made in some central information repository, perhaps at the Galactic center. If the emergence of intelligent life on a planet is of general scientific or other interest to the Galactic civilizations, it is reasonable that with the emergence of

Proconsul, the rate of sampling of our planet should have increased, perhaps to once every ten thousand years. At the beginning of the most recent post-glacial epoch, the development of social structure, art, religion, and elementary technical skills should have increased ‘ the contact still further. But if the interval between sampling is only several thousand years, there is then a possibility that contact with an extraterrestrial civilization has occurred within historical times.

This is a very interesting prelude to our own story, and I believe Sagan and Shklovskii’s attitude is broadly true of the entire astronomical profession. I have certainly never met an astronomer of today who seriously doubted that there must be countless numbers of intelligent civilizations scattered throughout the universe on other planets which are orbiting around other stars.¹¹ Any people who still believe human beings are unique as intelligent life in the universe are seriously out of touch with reliable and informed estimates by scientists and astronomers. An attitude which asserts that man is the only intelligent life form in the universe is intolerably arrogant today, though as little as twenty years ago it was probably common belief. But anyone who holds such an opinion today is, fortunately for those who like to see some progress in human conceptions, something of an intellectual freak equivalent to a believer in the Flat Earth Theory. I mention that theory because I once met a woman who appeared quite sane and yet who was a member of a cult who believe the Earth is flat. This was one of the more startling experiences anyone can have, and a salutary education to ‘me. It taught me never to underestimate the power of the human mind to believe what it wants to believe despite any amount of evidence.

Dr Melvin Calvin, of the Department of Chemistry, University of California at Berkeley, has said: ‘There are at least 100,000,000 planets in the visible universe which were, or are, very much like the earth.... this would mean certainly that we are not alone in the universe. Since man’s existence on the earth occupies but an instant of cosmic time, surely intelligent life has progressed far beyond our level on some of these 100,000,000 planets.’¹²

Dr Su-Shu Huang of the Goddard Space Flight Center, Maryland, has written: ‘... planets are formed around the main-sequence stars of spectral types later than F5. Thus, planets are formed just where life has the highest chance to

flourish. Based on this view we can predict that nearly all single stars of the main sequence below F5 and perhaps above K5 have a fair chance of supporting life on their planets. Since they compose a few per cent of all stars, life should indeed be a common phenomenon in the universe.’¹³

Dr A. G. W. Cameron, Professor of Astronomy at Yeshiva University, has discussed the stars Tau Ceti and Epsilon Eridani, which are considered the two likeliest localities for intelligent life within our immediate neighbourhood of space (within five ‘parsecs’ of us, a parsec being an astronomical unit of distance). He has then said, however: ‘But there are about 26 other single stars of smaller mass within this distance, each of which should have a comparable probability of having a life-supporting planet according to the present analysis’.¹⁴ 1

Dr R. N. Bracewell of the Radio Astronomy Institute, Stanford University, has said :¹⁶

As there are about one billion stars in our galaxy, the number of planets would be about 10 billion.... Now not all of these would be habitable, some would be too hot and some too cold, depending on their distance from their central star; so that on the whole we need only pay attention to planets situated as our earth is with respect to the sun. Let’s describe such a situation as being within the habitable zone.

This is not to imply that no life would be found outside the habitable zone. There may very well be living things existing under most arduous physical conditions... . After elimination of frozen planets and planets sterilized by heat, we estimate that there are about 10^{10} , [ten thousand million] likely planets in the galaxy [for life]. ... Of the 10^{10} likely planets, we frankly do not know how many of them support intelligent life. Therefore, we explore all possibilities, beginning with the possibility that intelligent life is abundant and in fact occurs

on practically every planet. In this case, the average distance from one intelligent community to the next is 10 light-years. For comparison, the nearest star, of any kind, is about 4 light-year away.

Ten light-years is a very large distance. A radio signal would take 10 years to cover the distance... . Consequently, communicating with someone 10 light-years away would not be like a telephone conversation ... are we sure that we can send a radio signal as far as 10 light-years? A definite answer can be given to this question.

There is no need for me to continue marshalling quotations from distinguished scientists and astronomers in support of the possibility of intelligent life in space, as the situation is by now obvious. The odds against intelligent life occurring fairly frequently within our galaxy are impossible ones. Since this is established, we are faced with yet another factor: in our own history, technological development has been rapid within a short space of time. When civilizations all over the universe reach 'take-off point', they have a technological explosion. It is familiar to older members of our species today that when they were young there were no airplanes, automobiles, rockets, satellites, electricity, radio, or atom bombs. People were dying of diseases which today we do not take seriously, no one with a toothache could obtain modern dental treatment, the concept of elementary hygiene was a novelty. I am not reciting all these wonders merely as a ritual incantation to our new god of progress. The point to be grasped is the sudden combustible nature of progress of this kind. In the lifetime of a single person all this can come about.

'Take-off point' is probably a universal phenomenon. Intelligent societies all over the universe will probably have experienced it, or are due to. Now the lifetime of a single person is of no consequence on the great universal time scale for the development of civilizations, not to mention the formation of planets. Therefore any society in advance of our own is certain to be very much in advance of ours. Once intelligent societies reach take-off point, they rush so quickly upward in technological competence that a comparison between them

and non-technological societies is almost absurd. It would be foolish for us to suppose that any society more advanced than ours would be just a few years ahead of us. It would more likely be just a few tens of thousands of years ahead of us. And the technology and nature of such a society are beyond our abilities to imagine. The intelligent societies existing in the universe, then, are going to be of two kinds; less advanced than ourselves, 'primitive'; and fantastically more advanced than ourselves, 'magical'. To be at the point where we are now, at the watershed between 'primitive' and 'magical', is such a rare event in the universal history, that we may be the only intelligent society in the entire galaxy which is at this moment experiencing such a stage in our evolution. We therefore should feel privileged to be witnesses of it. Of course, the nature of time comes in again with the impossibility of talking sensibly about simultaneity in the galaxy at all. But that is another subject, and one which we may ignore here.

A further thought follows upon the above observations. Granted that there are two forms of society in the universe aside from our own bizarre transition stage, the 'primitive' societies are obviously only of interest to those more advanced than themselves, for they are incapable of communicating with anybody else. They are like we were as little as a hundred years ago: provincial, quiet, probably quite murderous, and smug, with the occasional visionary who is burned at the stake or crucified causing a moral ripple. But they cannot send or receive messages between the stars. In our transition stage, aptly enough, we can receive such messages with existing equipment, but could not send any unless we constructed expensive and special means to do so. Now that means that the only societies carrying on an interstellar dialogue of any kind are the 'magical' societies. These societies will be so advanced that they probably have emerging primitives like ourselves 'taped'. They certainly have standard sets of procedures for dealing with the likes of us, and may already have commenced their operations with the long-range intent of bringing us into their club. But just as no London gentlemen's club wishes to have a savage in a g-string waving his spear and poisoned arrows about in the members' lounge, so the interstellar club is unlikely to plug us straight into the circuits as a fully-fledged member.

But what I am getting at is not merely to impress upon the reader that a pecking order is likely to exist in the interstellar club of any galaxy, at least to the extent of having restrictions on novices, but to make the point which emerges from this. And the point is, that such highly advanced societies have possibly developed to

such, a pitch of technological expertise that interstellar travel has become possible for them, whereby they can physically transport themselves over at least modest interstellar distances of a few light-years to their near neighbours. And if that is the case, then our own planet, which any half-witted extraterrestrial astronomer in the neighbourhood could assume as a likely place for life to exist, has almost certainly been physically visited by extraterrestrials in their travels. This could have happened at any time in our lengthy history as a planet. No doubt, at the very least, our distant ancestors the cave-men would have been observed by extraterrestrial probes, who would have made a note that something was happening on this planet - slowly happening, but nevertheless actually happening. And as Sagan and Shklovskii said in the quotation from their book: 'It is reasonable that ... the rate of sampling of our planet should have increased, perhaps to once every ten thousand years... . But if the interval between sampling is only several thousand years, there is then a possibility that contact with an extraterrestrial civilization has occurred within historical times.'¹

If this were so, it would certainly have left some impact upon man and been incorporated somehow into his traditions. But if several thousand years had elapsed between that time and the present, the traces of the impact on man's culture would have been mostly dissipated and, it would seem, nearly impossible to elucidate. Unless some specific and unmistakeable survival were found to exist, in circumstances which would probably be unusual, it seems that the hope of reconstructing scattered clues and fragments of the original tradition would be futile. That there would be something there if you could find the key seems certain. Let us return to a continuation of that passage from Sagan and Shklovskii for suggestions as to how a memory of an extraterrestrial contact might have been preserved from prehistoric or early historic times on Earth, through comparison with a verifiable story of French contact made with certain American Indians in 1786, as it was told to a modern anthropologist in the form of a tribal myth:¹⁷

There are no reliable reports of direct contact with an extraterrestrial

civilization during the last few centuries, when critical scholarship and non-superstitious reasoning have been fairly widespread. Any earlier contact story must be encumbered with some degree of fanciful embellishment, due simply to the views prevailing at the time of the contact. The extent to which subsequent variation and embellishment alters the basic fabric of the account varies with time and circumstance. [An example] relevant to the topic at hand is the native account of the first contact with the Tlingit people of the northeast coast of North America with European civilization - an expedition led by the French navigator, La Perouse, in 1786. The Tlingit kept no written records; one century after the contact, the verbal narrative of the encounter was related to the American anthropologist G. T. Emmons by a principal Tlingit chief. The story was overlaid with the mythological framework in which the French sailing vessels were initially interpreted. But what is very striking is that the true nature of the encounter had been faithfully preserved. One blind old warrior had mastered his fears at the time of the encounter, had boarded one of the French ships, and exchanged goods with the Europeans. Despite his blindness, he reasoned that the occupants of the vessels were men. His interpretation led to active trade between the expedition of La Perouse and the Tlingit. The oral rendition contained sufficient information for later reconstruction of the true nature of the encounter, although many of the incidents were disguised in a mythological framework -for example, the ships were described as immense black birds with white wings.

As another example, the people of sub-Saharan Africa, who had no written language until the colonial period, preserved their history primarily through folklore. Such legends and myths, handed down by illiterate people from generation to generation, are in general of great historical value.

discuss these traditions particularly in Chapter Eight, and the surviving accounts of them are to be found in Appendix II, reprinted here in their entirety for the first time since 1876.

The Sumerian culture is very important. We shall be discussing it later in the book. It formed the original basis of that Mesopotamian civilization which is better known to most people through the much later Babylonians and Assyrians who inherited much of the Sumerian culture. The actual language of the Sumerians was superseded rather early by the Akkadian language (which is

Semitic; Sumerian is non-Semitic and seems to have no linguistic affinities at all). The Akkadians and the Sumerians intermingled and eventually formed a meld like that which now exists between what once were the separate Normans and Anglo-Saxons in Britain, except that the Akkadians were Semitic and the Sumerians were not, and with considerable physical differences between them. Then the city of Babylon with its Babylonians and the region of Assyria with its Assyrian warriors to the north - and later the distant region of Pars with its Persians to the east - commanded the Mesopotamian area. From the Sumerian-Akkadian milieu also evolved those Semites known as Hebrews or Jews.

It should be more widely realized that when those famous Biblical figures Noah and Abraham 'lived' there was no such thing as a Hebrew yet in existence. Indeed, Noah is merely a Hebrew name for a much more ancient flood hero discussed in ancient texts which we have now recovered from early Sumer.¹⁸ It is these Sumerians to whom Sagan has just referred, with their legend of an amphibious creature who founded their civilization. But all this does not concern us quite yet. I will just add that the Jews and the Arabs are both traditionally said to be descendants of Abraham, and Abraham was neither a Jew nor an Arab.

Now the peoples of sub-Saharan Africa are the source of our first arresting information. The particular people are called the Dogon, and they live in the present state of Mali. The nearest cities to them are Timbuctoo, Bamako, and Ouagadougou in Upper Volta. Initial research by me on the Dogon turned up an article in an anthropological journal by the French anthropologists Marcel Griaule and Germaine Dieterlen.¹⁰ The article was written in French and an English translation of it is published, for the first time, as sequel to Part One of this book. I decided to publish the article in full because of the difficulty most interested readers would find in locating the French journal in which the original article appeared. And, of course, the original article could only be read by those who know French. The complete article, with its footnotes and all its illustrations, and in English, is therefore available for anyone who wishes to read it for himself. It is thus not necessary for me to summarize its contents.

When I first read the article, which is entitled 'A Sudanese Sirius System' (and refers to the French Sudan area, not the Republic of Sudan over a thousand miles to the east, below Egypt), I could hardly believe what I saw. For here was an

anthropological report of four tribes, the Dogon and three related ones, who held as their most secret religious tradition a body of knowledge concerning the system of the star Sirius, including specific information about that star system which it should be impossible for any primitive tribe to know.

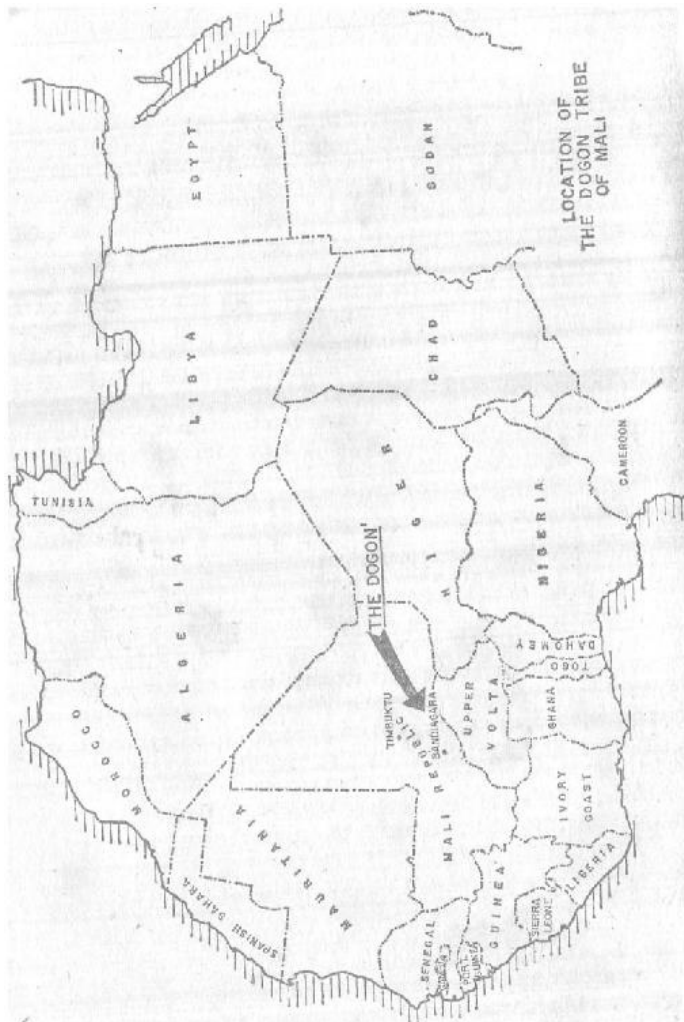
The Dogon consider that the most important star in the sky is Sirius B, which cannot be seen. They admit that it is invisible. How, then, do they know it exists? Griaule and Dieterlen say: 'The problem of knowing how, with no instruments at their disposal, men could know the movements and certain characteristics of virtually invisible stars has not been settled, nor even posed.' But even in saying this, Griaule and Dieterlen imply that Sirius B is only 'virtually invisible', whereas we know it is totally invisible except through a powerful telescope. What, then, is the answer?

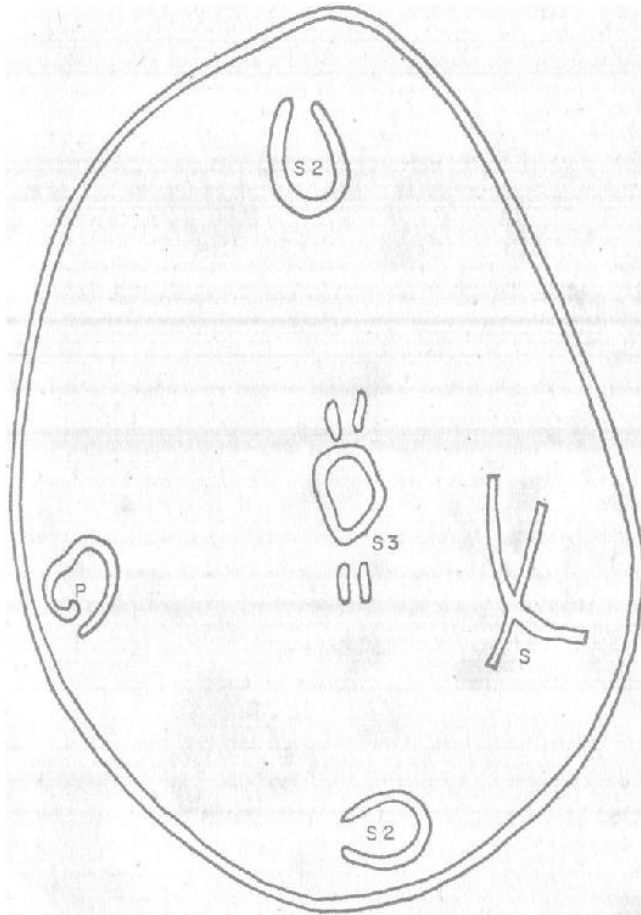
Griaule and Dieterlen make clear that the large and bright star of Sirius is not as important to the Dogon as the tiny Sirius B, which the Dogon call *po tolo* (*tolo* meaning 'star'). *Po* is a cereal grain commonly called 'fonio' in West Africa, and whose official botanical name is *Digitaria exilis*. In speaking of the *po* star, Griaule and Dieterlen call it 'the star Digitaria', or just simply 'Digitaria'. What is significant about the *po* grain is that it is the smallest grain known to the Dogon, being extremely minute, and unknown as food in Europe or America. To the Dogon, this tiny grain represents the tiny star, and that is why the star is called *po*, after the grain.

In the article we read: 'Sirius, however, is not the basis of the system: it is one of the foci of the orbit of a tiny star called Digitaria, *po tolo* ... which ... hogs the attention of male initiates.' Now, this is a most unsettling statement. The casual reader may not notice just how unusual it is for an African tribe to put it quite this way. But the orbit of Digitaria, which the Dogon elsewhere describe as egg-shaped or elliptical (see also Figures 6 and 7, as well as the illustrations to the article), is specifically described as having the main star Sirius as 'one of the foci of [its] orbit'. Of course, the technical Jerm 'focus' has here been supplied by the anthropologists. But they were faithfully rendering the meaning of what the Dogon said in their own language. And what the Dogon were saying, and

which they also make quite clear graphically in their drawings (see Figures 2 and 6), is that the orbit of

Figure I





KEY: S = SIRIUS

52 = POSITIONS OF SIRIUS B

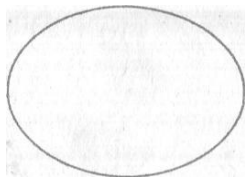
53 = ANOTHER STAR P S A-PLANET

Figure 2 **39**

Sirius B around Sirius A is of a kind which obeys one of Kepler's laws of

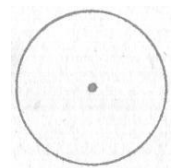
planetary motion, extended to other orbiting bodies. It was Johannes Kepler (1571-1630) who first proposed that heavenly bodies do not move in perfect circular paths. He hit upon the brilliant insight that the planets in their motions around the sun were moving in elliptically shaped orbits, with the sun at one of the two foci of each ellipse. Most people I speak to have no idea that the planets don't go in circles around the sun. Even if they were taught the truth at school, they have long since forgotten about things like that. And many people honestly don't know what an ellipse is unless you show them one.

An ellipse is a kind of 'stretched' circle. You can conceive of grabbing the centre of a circle and ripping the centre into two pieces, and then pulling those two portions away from each other. This would naturally make the circle flatten at the top and the bottom and bulge at the two



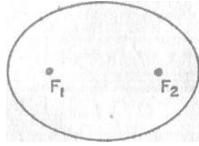
AN ELLIPSE

Figure 3



CIRCLE. ONE CENTRE

sides, and the two pieces of the centre would fall along a straight line joining the two most distant points. These two fragments of centre each then have the name of *focus*, and the two together are 'the foci of the ellipse.' If you could get your hands on that ellipse and push at

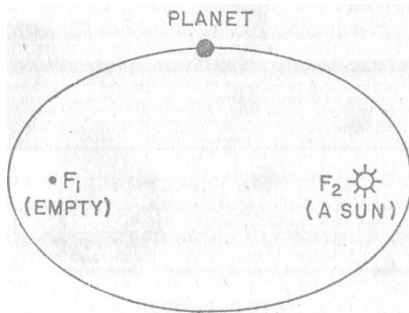


ELLIPSE, TWO FOCI

Figure 4

the bulging ends, you might force it back together again and make it a proper circle.

But what I ask all readers to take note of is this: How did the Dogon tribe, who had no access to the theories of Kepler or his successors, know about matters like this? How did they even get the idea in the first place that elliptical orbits existed, rather than circular -much less apply this idea to some invisible star way out in space? And also to get it right by saying that Sirius A was at one of the foci, rather than just somewhere in the ellipse? And not at the centre? Wouldn't the natural primitive idea seem to be, even if you wanted to say the orbit was elliptical, still to have Sirius itself at the centre? But no. They knew too much to make a mistake like that. For the whole point about Kepler's Law is that not only are the orbits ellipses, but the sun must always be at one of the foci; otherwise nothing will work. Now, in order to know about all this, you need not have had Kepler. Elliptical orbits are a Universal truth, as true here as they are on the other side of the galaxy, or even in some other galaxy. Kepler merely discovered a natural principle. He didn't invent it. So there was no need for the Dogon to know about Kepler personally. All that is re

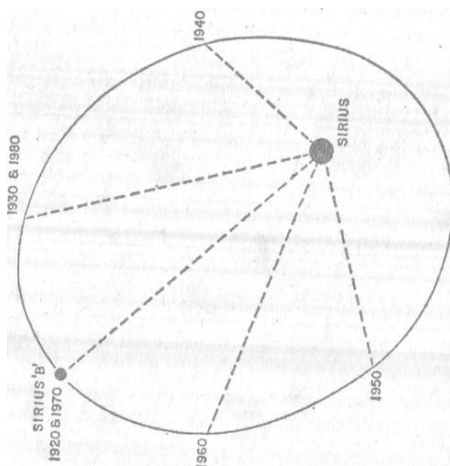


Figures

quired is an explanation of how they could have learned the universal principle from any other source, considering that they exist on this planet, and we don't know of anyone else on this planet, living in Africa, say, who has discovered any of these things.

In Figure 6,1 compare the Dogon drawings of the orbit of Sirius B around Sirius with the modern astronomical diagrams of the same (which have just been confirmed as accurate at this scale by Lindenblad's latest work); also there is a comparison of the same information,

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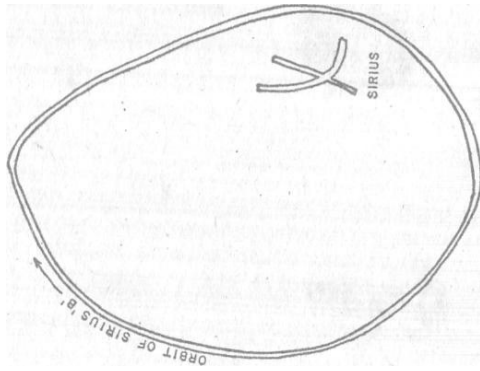


Figure 6 42

tribal and modern, as seen in a linear perspective, stretched through time. I do not need to claim any perfect scientific accuracy for the Dogon drawings. The similarity is so striking that the most untrained eye can immediately see that the general picture is identical, in each instance. There is no need for perfectionists to get out their slide rules or measuring tapes. The fact is demonstrated, and it is that the Dogon have an accurate general knowledge of the most unobvious and subtle principles of the orbiting of Sirius B around Sirius A.

The Dogon also know the actual orbital period of this invisible star, which is fifty years. Referring to the sacred Sigi ceremony of the tribe, Dieterlen and Griaule tell us: 'The period of the orbit is counted double, that is, one hundred years, because the Sigis are convened in pairs of "twins", so as to insist on the principle of twin-ness'.

The Dogon also say that Sirius B rotates on its axis, demonstrating that they know a star can do such a thing. In reality, all stars really do rotate on their axes. How do the Dogon know such an extraordinary fact? In the article, the Dogon are recorded as saying: 'As well as its movement in space, Digitaria also revolves upon itself over the period of one year and this revolution is honoured during the celebration of the *bado* rite'. It is not known to modern astronomy what the period of rotation of Sirius B is; the star is so small we think we are doing well to see it at all. I asked one astronomer, G. Wegner, of Oxford's Department of Astrophysics and the University Observatory, whether one year might be a sensible estimate of the rotation period of Sirius B. He naturally

replied that we had no way of determining it, but that a year could be right; in other words, it cannot be ruled out, which was all I was seeking to establish.

The Dogon describe Sirius B as ‘the infinitely tiny’. As we know, Sirius B is a white dwarf and the tiniest form of visible star in the universe. But what is really the most amazing of all the Dogon statements is this: ‘The star which is considered to be the smallest thing in the sky is also the heaviest: “Digitaria is the smallest thing there is.

Figure 6. On left: the orbit of Digitaria (Sirius B) around Sirius as portrayed by the Dogon in their sand drawings. On right: A modern astronomical diagram of the orbit of Sirius, the years indicated being the positions of Sirius B in its orbit on those dates. Note that the Dogon do not place Sirius at the centre of their drawing but seem to place it near one focus of their approximate ellipse - which constitutes one of the most extraordinary features of their information, and matches the diagram on the right to an uncanny degree.

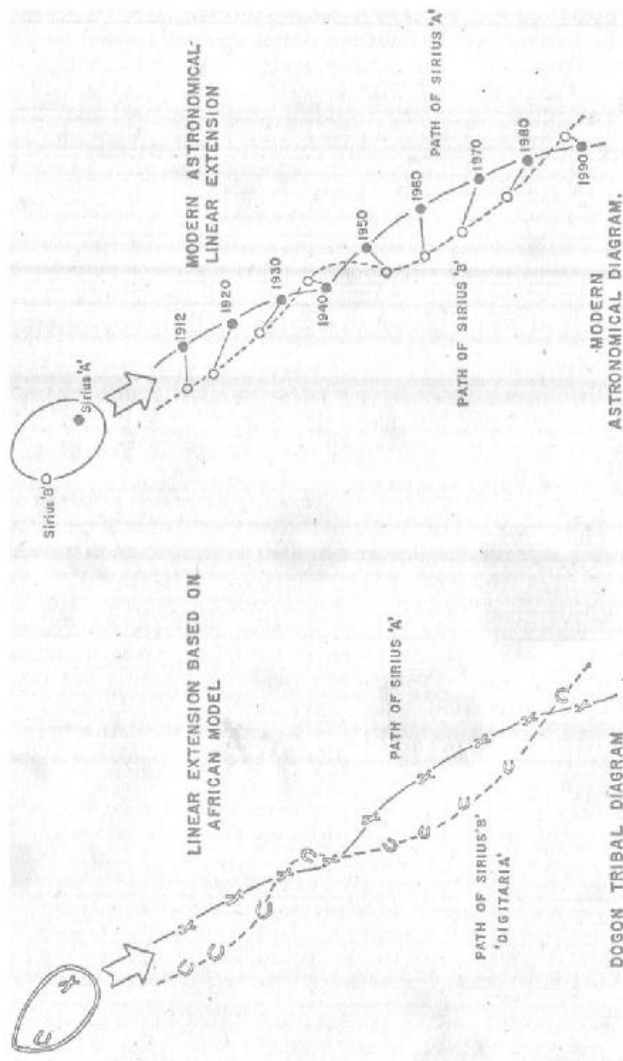


Figure 7 44

It is the heaviest star.” It consists of a metal called *sagala* which is a little brighter than iron and so heavy “that all earthly beings combined cannot lift it”. In effect the star weighs the equivalent of... all the seeds, or of all the iron on the earth ...’ (all this from the following article by Griaule and Dieterlen).

So we see the Dogon presenting a theory of Sirius B which fits all known scientific facts, and even some which are not known it presents as well. They know that the star is invisible, but they know it is there nevertheless. They know that the star’s orbital period is fifty years, which it really is. They, know that

Sirius A is not at the centre of its orbit, which it is not. They know that Sirius A is at one of the foci of Sirius B's elliptical orbit, which it is. They know that Sirius B is the smallest kind of star, which it is (barring totally invisible collapsing neutron stars). They know that Sirius B is composed of a special kind of material which is called *sagala*, from a root meaning 'strong', and that this material does not exist on the earth. They know that this material is heavier than all the iron on earth, etc., all of which is perfectly true. For Sirius B is in reality made of super-dense matter of a kind which exists nowhere on earth.

All this forms the most sacred and most secret tradition known to the Dogon, the basis of their religion and of their lives. Connected with all this are statements they make about the existence of a third star in the Sirius system, which they call the *emme ya* star which, in comparing it to Digitaria, they say is 'four times as light (in weight), and travels along a greater trajectory in the same direction and in the same time as it (fifty years). Their respective positions are such that the angle of their radii is at right angles.' This last star has a satellite, indicating that the Dogon appreciate that bodies other than stars are satellites of stars. Of *emme ya* itself, they say: 'It is the "the sun of women" ... "a little sun" ... In fact it is accompanied by a satellite which is called the "star of women" ... or Goatherd ... as the guide of (*emme ya*).'

Figure 7. The linear extension on the right is scientifically reliable, based on measurements of the rate of revolution of Sirius B around Sirius A. The linear extension on the left is *not* scientifically reliable. It is a presumed correlation, for there is no way in which the *rate* of revolution of Digitaria can be known certainly from the Dogon information. These linear extensions cannot, therefore, be considered to constitute hard evidence of a correlation. It is likely, though, that they do correlate because Digitaria is presumed to move at a rate which makes astronomical sense (for if the shape of the orbit and the distance match, the period should match).

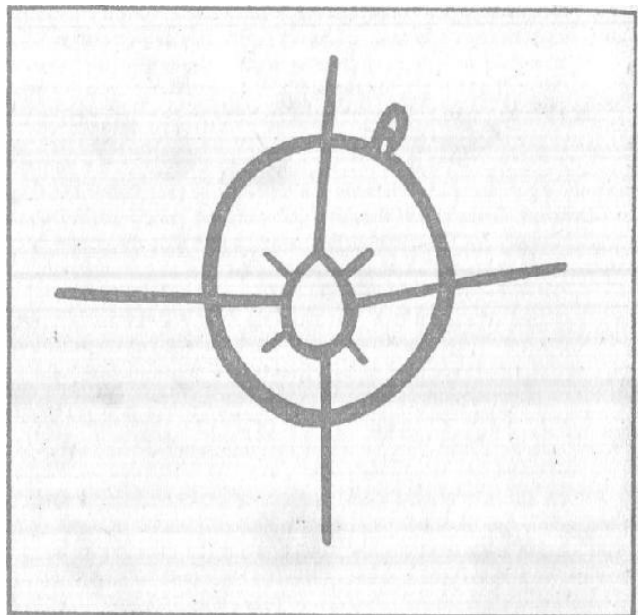


Figure 8. Dogon drawing of a planet going round Sirius C-Emme ya

Around the astronomical facts of this extraordinary system, the Dogon have a complicated system of mythology. Sirius B they see as ‘relentlessly revolving around Sirius ... and never capable of reaching it’. All these facts have mythological tales and personages connected with them. I have tried to extract the bare facts from the article and present them here for the reader. But the reader will by now see quite clearly why I have included the entire article in this book, for the information is so incredible that I thought the reader would simply think I had made it all up unless I presented the source for him to read through himself.

But let us move beyond the Griaule and Dieterlen article ‘A Sudanese Sirius System’. Let us now consider a later and fuller publication of book length, which is obviously too bulky to include within this book as an appendix. I refer to the book *Le Renard pale* (The Pale Fox) published in 1965. This book, by Griaule and Dieterlen, was produced ten years after the death of Marcel Griaule himself.

It contains Mme Dieterlen’s latest reflections on the Sirius system of the Dogon. In this definitive compendium²⁰ of much of the joint findings of herself and Marcel Griaule (it is only the first such volume of theirs to appear in a planned

series summing up their work), Mme Dieterlen has actually added a brief appendix on pages 529-31 which gives information about Sirius and its companion star in the form of an extract from an article by Dr P. Baize which appeared in the September 1931 issue of *Astronomie*. She says: 'The excerpts concern the discovery, orbit, period and density of the Companion of Sirius'.²¹ Her curiosity has obviously developed since 1950 and the publication of 'A Sudanese Sirius System'. But like a true professional, Mme Dieterlen merely cites the astronomical facts in this way in a short appendix at the back of her book²² without drawing any conclusions or even indicating the connection of this subject with the Dogon's traditions. In fact, lest the reader assume otherwise, I must make clear that neither Marcel Griaule nor Mme Dieterlen has at any time (to my knowledge) made any claim of extraterrestrial contact to do with the Dogon. They have not even made any direct comments on the extraordinary impossibility of the Dogon knowing all the things which they know. I could never have made discoveries such as those of Griaule and Dieterlen and merely said (as in the article): 'The problem of knowing how ... has not been settled, nor even posed.' I do believe such restraint calls for a medal; it is so phenomenal that it is the greatest factor in favour of Griaule and Dieterlen's discoveries. If they had trumpeted their findings, I suppose I would never have taken them seriously. I would have thought them unreliable. Such are the ironies by which information can be revealed - by almost disappearing through diffidence.

I sat down and rewrote this book in the light of *Le Renard pale* (I have not been able to discover whether this has been published in English; I read the translation in typescript), with its more complete information. Much of this will be found in the context of a more advanced discussion in Chapter Seven.

In *Le Renard pale* it is possible to learn much more of the Dogon beliefs and knowledge relating to astronomy and the Sirius system. Of the moon, they say it 'is dry and dead like dry dead blood'.²³ Their drawing of the planet Saturn has a ring around it, and is reproduced as Figure 10 in this book. They know that the planets revolve around the sun. Planets are called *tolo tanaze*, 'stars that turn (around something)'.²⁴ But this does not mean turning around the Earth. The

Dogon specifically say, for instance: ‘Jupiter follows Venus by turning slowly around the sun.’²⁶ The various positions of Venus are recalled on a very large geographical space by a series of altars, raised stones, or arrangements in caves or shelters.²⁶ The positions of Venus determine a Venus calendar.²⁶ In fact, the Dogon have four different kinds of calendar. Three of them are liturgical calendars: a solar calendar, a Venus calendar, and a Sirius calendar. Their fourth is an agrarian one, and is lunar.²⁸

The Dogon know of the existence of four other invisible heavenly bodies besides Sirius B and its possible companions in the Sirius system. These other four bodies are in our own solar system. For the Dogon know of the four major ‘Galilean’ moons of Jupiter. These four moons are called ‘Galilean’ because Galileo discovered them when he began to use the telescope. The other moons of Jupiter are small and insignificant, having formerly been asteroids which were captured by Jupiter’s gravitation at some unknown time in the past. (They are thought to have come from the asteroid belt between Mars and Jupiter which some astronomers think once constituted a planet which exploded.) The Dogon say: ‘The mutilation (the Fox) suffered was still bloody. The blood of his genitals fell on the ground, but Amma made it ascend to heaven as four satellites that turn around *dana tolo*, Jupiter, ... “The four little stars are Jupiter wedges” ... When Jupiter is represented by a rock, it is wedged in with four stones.’²⁹ A Dogon drawing of Jupiter with its four moons is reproduced in Figure 9 in this book. Griaule and Dieterlen describe this drawing as follows:³⁰

This figure represents the planet - the circle - surrounded by its four satellites in the collateral directions and called *dana tolo unum* ‘children of *dana tolo* (Jupiter)’. The four satellites, associated to the four varieties of *sene* (acacia), sprang from the drops of blood from the Fox’s mutilated genitals. ‘The four small stars are Jupiter’s hulls’ ... The sectors between the satellites represent the seasons. They turn around Jupiter and their movements will favour the growth of the *sene* leaves, for the *sene* moves on the ground at night like the stars in the sky; they turn on their own axes (in a year) like the satellites.

They add in a footnote that ‘the trunks of certain varieties of *sene* are spiralled. A house is not built with *sene* wood, which would make the house “turn”. The “movements” of the *sene* at night are supposed to attract the souls of the dead who “change place”.’

As for Saturn, drawn in in Figure 10, the Dogon specifically describe its famous halo, which is only visible through a telescope. According to Griaule and Dieterlen:³¹ ‘... the Dogon affirm there is a permanent

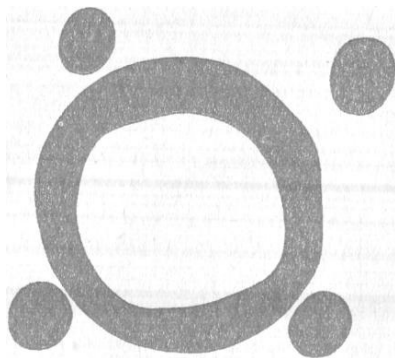


Figure 9. Dogon drawing of Jupiter with its four main moons

halo around the star, different from the one sometimes seen around the moon ... the star is always associated to the Milky Way.’

Saturn is known as ³² ‘the star of limiting the place’ in association somehow with the Milky Way. The meaning is unclear, and the anthropologists say the subject must be pursued further,³³ but it would seem they may be trying to convey the idea that Saturn ‘limits the place’ of the solar system, separating it from and acting as link with, the Milky Way itself, in which the solar system is situated. Saturn being the outermost planet which the Dogon mention, this may be their intended meaning. The Dogon realize that the Milky Way contains the earth :³⁴ ‘... the Milky Way ... is in itself the image of the spiralling stars inside

the “world of spiralling stars” in which the Earth is found. In this “world of stars”, the axis (“Amma’s fork”) around which they move, links the Polar Star ...’ and so on. The Milky Way is described as the ‘more distant stars’ - that is, than the planets.

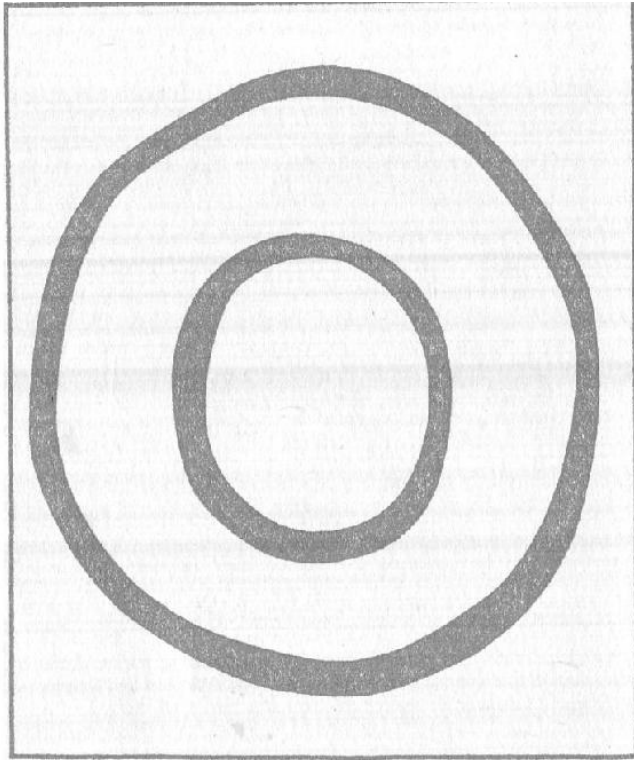


Figure 10. Saturn with its ring. Dogon drawing

We are told that³⁵ ‘For the Dogon an infinite number of stars and spiralling worlds exist’. They carefully differentiate the three kinds of *tolo* or ‘stars’: ‘The fixed stars are a part of the “family of stars that doesn’t turn” (around another star) ... the planets belong to the “family of stars that turns” (around another star) ... the satellites are called *tolo gonoze* “stars that make the circle”.’³⁶ The heavenly motions are likened to the circulation of the blood. The planets and satellites and companions are ‘circulating blood’.³⁷ And this brings us to the

extraordinary point that the Dogon do know about the circulation of the blood in the body from their own tradition. In our own culture, the Englishman William Harvey (1578-1657) discovered the circulation of the blood. Strange as it may seem to us now, before his time the notion seems not to have occurred to anyone. John Aubrey, author of *Brief Lives*, knew Harvey well, and tells us :³⁸ 'I have heard him say, that after his Booke of the *Circulation of the Blood* came out, that... 'twas beleev'd by the vulgar that he was crack-brained ...'. However, the same theory does not seem to arouse among the Dogon notions that their wise men are crack-brained. Here is an account of the theory by the Dogon themselves and recorded in their own words :³⁹

The movement of the blood in the body which circulates inside the organs in the belly, on the one hand 'clear' blood, and on the other the oil, keeps them both united (the words in man): that is the progress of the word. The blood-water - or clear - goes through the heart, then the lungs, the liver and the spleen; the oily blood goes through the pancreas, the kidneys, the intestines and the genitals.

The Dogon say: '.. . the food you eat, the beverage you drink, that Amma changes into red blood; white blood is a bad thing'.⁴⁰ They also say: 'The essence of nourishment passes into the blood'.⁴¹ They know that the blood passes into the internal organs 'starting with the heart'.⁴² The Dogon even seem to understand the role of oxygen - or at least, air - entering the bloodstream. For they equate air with 'the word' which they say enters the bloodstream bringing 'nourishment of the interior' by 'the impulse raised by the heart'. The 'integration of the "word" (air) into the body also has to do with the food nourishing the blood. All the organs of respiration and digestion are associated with this integration.'⁴³

The Milky Way, likened as I said to a circulation of the blood, is described further: '.. . the term *yalu ulo* designates the Milky Way of our galaxy, which sums up the stellar world of which the Earth is a part, and which spins in a spiral. ... (it encompasses) the multiplication and the development, almost infinite, of the spitaloid stellar worlds that Amma created ... (there are) spiralling worlds that fill the universe - infinite and yet measurable.'⁴⁴ Amma is

the chief god, the creator, of the universe, to the Dogon. There is an interesting account of Amma and the creation: 'The active role of fermentation at the time of the creation is recalled in the present brewing of beer ... the fermentation of the liquid constitutes a "resurrection" of the cereals destroyed in the brewing.... Life ... is comparable to a fermentation. "Many things were fermenting inside Amma"' at the creation.⁴⁵ And 'Spinning and dancing, Amma created all the spiralling worlds of the stars of the universe.'⁴⁶ . . Amma's work realized the universe progressively, it was made up of several stellar worlds spiralling around.'⁴⁷ The Dogon have no difficulty in conceiving of intelligent life all over the universe. They say:⁴⁸

The worlds of spiralling stars were populated universes; for as he created things, Amma gave the world its shape and its movement and created living creatures. There are creatures living on other 'Earths' as well as on our own; this proliferation of life is illustrated by an explanation of the myth, in which it is said: man is on the 4th earth, but on the 3rd there are 'men with horns' *inneu gammu-rugu*, on the 5th, 'men with tails' *inneu dullogu*, on the 6th, 'men with wings' *inneu bummo*, etc. This emphasizes the ignorance of what life is on the other worlds but also the certainty that it exists.

The Dogon know that the Earth turns on its own axis. When the fox walks over the tables of divination which have been drawn in the sand, 'the planet begins to turn under the action of (the fox's) paws'.⁴⁹ 'When the only traces that are visible are made by the tail, the image is likened to the movement of the Earth turning on its own axis; it is said: "The Fox turned with his tail; the Earth turned on its own axis".'⁵⁰ 'So the divination table represents the Earth "which turns because of the action of the Fox's paws" as he moves along the registers; while the instruction table represents the space in which the Earth moves, as well as the sun and the moon, which were placed by Amma out of his reach.'⁵¹ The instruction table here referred to has twelve registers and constitutes a lunar calendar, with each register representing a month. It is Figure 96 in *Le Renard pale*. These twelve months, then, are 'the space in which the Earth moves' - that is, one year's orbit around the sun. And within this orbit, the Earth's rotations on

its own axis every day take place. The orbit around the sun is 'the Earth's space'.

The Dogon know perfectly well that it is the turning of the Earth on its axis which makes the sky seem to turn round. They speak of '... the apparent movement of the stars from east to west, as men see them'.⁶² The Dogon are thus free from the illusions of our European ancestors, who thought the sky and stars wheeled round the Earth (though there was an exception to such primitive notions in Europe which no historian of science has ever reported, at least as far as I have been able to discover after a great deal of searching. I have summarized this 'secret' tradition in Appendix 1, and pointed out its connection with the Sirius mystery). The placenta is used by the Dogon as a symbol of a 'system' of a group of stars or planets. Our own solar system seems to be referred to as 'Ogo's placenta',⁵³ whereas the system of the star Sirius and its companion star and satellites, etc., is referred to as 'Nommo's placenta'.⁶⁴ Nommo is the collective name for the great culture-hero and founder of civilization who came from the Sirius system to set up society on the Earth. Nommo - or, to be more precise, the Nommos - were amphibious creatures, and are to be seen in the two tribal drawings in Figure 20 and Figure 22 in this book. These Nommos are more or less equivalent with the Sumerian and Babylonian tradition of Oannes. All of this subject is discussed in Chapter Seven, where it is necessary to consider details of what kind of creatures may live on a planet in the Sirius system. For the moment we are really more concerned with the Dogon astronomical and other scientific knowledge. Their descriptions of 'spacemen' and landings of 'spaceships' - or at least what seem to be such - are left to Chapter Seven.

Here is the way in which Griaule and Dieterlen record the Dogon beliefs about the two cosmic placentas I have just mentioned:⁶⁵

Two systems, that are sometimes linked together, intervene, and are at the origin of various calendars, giving a rhythm to the life and activities of man... . One of them, nearest to the Earth, will have the sun as an axis, the sun is the testament to the rest of Ogo's placenta, and another, further away, Sirius, testament to the placenta of the Nommo, monitor of the Universe.

The movements of the bodies within these ‘placentas’ are likened to the circulation of blood in the actual placenta, and the bodies in space are likened to coagulations of blood into lumps. This principle is also applied to larger systems: ‘In the formation of the stars, we recall that the “path of the blood” is represented by the Milky Way ...’,⁵⁶ .. the planets and satellites (and companions) are associated to the circulating blood and to the “seeds” ... that flow with the blood.’⁵⁷ The system of Sirius, which is known as ‘land of the fish’,⁶⁸ and is the placenta of Nommo, is specifically called the ‘double placenta in the sky’,⁵⁸ referring to the fact that it is a binary star system. The ‘earth’ which is in the Sirius system is ‘pure earth’, whereas the ‘earth’ which is in our solar system is ‘impure earth’.⁶⁰

The landing of Nommo on our Earth is called ‘the day of the fish’,⁶¹ and the planet he came from in the Sirius system is known as the ‘(pure) earth of the day of the fish ... not (our) impure earth . . .’,⁶² In our own solar system all the planets emerged from the placenta of our sun. This is said of the planet Jupiter,⁶³ which ‘emerged from the blood which fell on the placenta’. The planet Venus was also formed from blood which fell on the placenta.⁶⁴ (Venus ‘was blood red when she was created, her colour fading progressively’.⁶⁵) Mars, too, was created from a coagulation of ‘blood’.⁶⁶ Our solar system is, as we have noted, called the placenta of Ogo, the Fox, who is impure. Our own planet Earth is, significantly, ‘the place where Ogo’s umbilical cord was attached to his placenta ... and recalls his first descent’.⁶⁷ In other words, the Earth is where Ogo ‘plugged in’, as it were, to this system of planets. What Ogo the Fox seems to represent is man himself, an imperfect intelligent species who ‘descended’ or originated on this planet, which is the planet in our solar system to which the great umbilical cord is attached. Ogo is ourselves, in all our cosmic impurity. It comes as a shock to realize that we are Ogo, the imperfect, the meddler, the outcast. Ogo rebelled at his creation and remained unfinished. He is the equivalent of Lucifer in our own tradition in the Christian West. And in order to atone for our impurity it is said over and over by the Dogon that the Nommo dies and is resurrected, acting as a sacrifice for us, to purify and cleanse the Earth. The parallels with Christ are extraordinary, even extending to Nommo being

crucified on a tree, and forming a eucharistic meal for humanity and then being resurrected. But these religious elements are not the subject with which I propose to deal. Let each reader pursue them as he sees fit, on his own initiative. I only raise the subject that, as Ogo, we may be cosmic pariahs, because I only hope that we must not always remain so. The Dogon seem to hold out hope of 'redemption' just as Jesus Christ did in his great message to the world. Redemption can mean what you want it to mean. But perhaps it would be more sensible to view 'sin' less as a sort of infraction of social rules and more as a form of impurity such as Ogo represents. The perversions of Christianity have always seemed to me to incorporate a perversion of the notion of 'sin' and the means by which 'sin' can be exploited as a means of temporal blackmail over other human beings. To rid ourselves of some impurity may be closer to what is needed, and those writers who have speculated that we suffer from a genetic fault may even be correct. If so, are we actually in cosmic quarantine at this moment?

We are told that the Nommo will come again. A certain 'star' in the sky will appear once more⁶⁸ and will be the 'testament to the Nommo's resurrection'. When the Nommo originally landed on Earth, he 'crushed the Fox, thus marking his future domination over the Earth which the Fox had made'.⁶⁸ So perhaps man's brutish nature has already been sufficiently subdued in our distant past. Perhaps it was those visitors whom the Dogon call the Nommos who really did 'crush the Fox' in us, who all but destroyed Ogo, and have given us all the best elements of civilization which we possess. We remain as a curious mixture of the brute and the civilized, struggling against the Ogo within us.

The Dogon seem to have come to terms with life, amid the bewildering multiplicity of heavenly motions in which they exist... the Earth turns 011 its own axis ... and makes a great circle (around the Sun).. . The moon turns like a conical spiral around the earth. The Sun distributes light in space and on the earth with its rays.'⁷⁰ The sun is 'the remainder of Ogo's placenta',⁷¹ and the centre of our system. For some reason, which they say is the visitation to earth of the amphibious bringers of civilization from there, the Dogon centre their life and religion not on all this glorious panoply of solar and planetary activity of which they know, but on the system of a nearby star and its invisible companions. Why? Can it really be for the reason they say? And if so, will the

Nommo come again? We should really investigate the details of the Dogon knowledge as fully as possible, for a start. In *Le Renard pale*, as opposed to the earlier article reproduced here, it is said, for instance, that the star *emme ya* in the system of Sirius may have an orbital period of thirty-two years instead of the fifty years which others maintain. It is larger than Sirius B and 'four times lighter'. In relation to Sirius B, 'Their positions are straight'. It is watched over by Sirius B and acts as an intermediary, transmitting Sirius B's 'orders'.² Does such a body exist? Can we treat Dogon prognostications as evidence to be tested? Dr Lindenblad says he cannot find evidence of a Sirius C of the kind which was presumed earlier by astronomers. But can evidence be found of the kind of Sirius C suggested by the Dogon? And if such a discovery were made, would it conclusively establish the validity of the Dogon claims?

Among the Dogon, an allusion to the great Creator's immortality and stability is expressed in good wishes of greetings or farewell that are addressed to a friend or relative: 'May the immortal Amma keep you seated'.⁷³ It is just as well that we keep our seats, for we are about to launch into the dark waters of our planet's past, which may bring quite an alteration of our normal conceptions of it. For beyond the fact that a culture contact between ourselves and an alien civilization from outer space may have taken place, of which we may find some evidence from our own ancient cultures, we may discover that the ancient world, the further back one goes in time, tends to develop a more and more odd flavour. The mysteries become denser, the strangeness thicker and more viscid. Just as in tracing the origins of sugar one goes from lighter syrup back to the thick and pungent molasses which develops, it seems, qualities far removed from one's expectations at the beginning, so with the past. Its doors encrusted with almost solid cobwebs give off the stench of air last breathed by ancestors forgotten by us all.

1. Cameron, A. G. W., ed., *Interstellar Communication*, W. A. Benjamin, Inc., New York, 1963. See p. 75 (Calvin), p. 88 (Huang), p. no (Cameron), and particularly p. 176 (Drake).

2. For account see *Sky and Telescope*, June 1973, p. 354. Publications: Lindenblad, Irving, 'Relative Photographic Positions and Magnitude Difference of the Components of Sirius' in *Astronomical Journal*, 75, no. 7 (September 1970), pp. 841-8, and 'Multiplicity of the Sirius System' in *Astronomical Journal*, 78, no. 2 (March 1973), pp. 205-7.

3. Sagan, C. and Shklovskii, I. S., *Intelligent Life in the Universe*, Dell Publishing Co., New York, 1966, pp. 437,440-64.

4. The astronomer Johann Friedrich Bessel in 1834. Just before his death in 1844 he decided Sirius must be a binary system. In 1862 the American Alvan Clark looked through the largest telescope then existing and saw a faint point of light where Sirius B should be, confirming its existence. In 1915 Dr W. S. Adams of Mt Wilson Observatory made the necessary observations to learn the temperature of Sirius B, which is 8000°, half as much again as our sun's. It then began to be realized that Sirius B was an intensely hot star which radiated three to four times more heat and light per square foot than our sun. It then became possible to calculate the size of Sirius B, which is only three times the radius of the Earth, yet its mass was just a little less than that of our sun. A theory of white dwarfs then developed to account for Sirius B, and other white dwarfs were later discovered.

5. See previous note.

6. Aitken, R. G., *The Binary Stars*, Dover Publications, New York, 1964, pp. 240-1. The account of Sirius extends from p. 237 to p. 241.

7. 'Multiplicity of the Sirius System,' art. cit. (see above, Note 2).

8. *Mass Loss and Evolution in Close Binaries*, Copenhagen University, 1970, pp. 190-4. (A seminar held in Elsinore Castle, with Lauterborn as a participant.)

9. Op. cit. (Note 6 above).

10. Op. cit. (Note 3 above) Chapter 33.

11. See for instance the book *Interstellar Communication*, op. cit. (Note 1 above), an anthology with contributions from nineteen astronomers and scientists.

12. Ibid., p. 75. 13. Ibid., p. 92. 14. Ibid., p. no.

15. Ibid., pp. 232-5. 16. Op cit. (Note 3 above), pp. 440-64.

17. Ibid.

18. See for instance Pritchard, J. B., *Ancient Near Eastern Texts relating to the Old Testament*, Princeton University Press, 1955, p. 42, the introductory remarks to trans. of 'The Deluge' and also pp. 93-5, account of the Flood.

19. Griaule, M., and Dieterlen, G., 'Un Systeme Soudanais de Sirius', *Journal de la Societe des Africanistes*, Tome XX, Fascicule 1, 1950, pp. 273-94. An English translation of this article follows Chapter One in this book.

20. Griaule, Marcel, and Dieterlen, Germaine. *Le Renard pale* (Tome I, Fascicule 1), Institut d'Ethnologie, Musie de l'Homme, Palais de Chaillot, Place du Trocadero, Paris 16° (75016 Paris), 1965. 544 pp.

21. Ibid., p. 529.

22. Nine references are given to Baize's publications, extending to 1938, and one given to Schatzman in *L'Astronomie*, 1956, pp. 364-9.

23. *Le Renard pale*, p. 478.

24. Ibid., pp. 480-1. 25. Ibid., pp. 480-1. 26. Ibid., p. 486.

27. Ibid., p. 481. 28. Ibid., p. 226. 29. Ibid., p. 264.

30. Ibid., p. 329. 31. Ibid., p. 292. 32. Ibid., p. 291.

33. Ibid., p. 292. 34. Ibid., p. 321. 35. Ibid., p. 321.

36. Ibid., p. 323. 37. Ibid., p. 323.

38. Aubrey, J., *Brief Lives*, Penguin, London, 1972. See entry for Harvey, William, pp. 290-1.

39. *Le Renard pale*, p. 348.

40. Ibid., p. 287 n. 1. 41. Ibid., p. 141. 42. Ibid., p. 141.

43. Ibid., p. 141. 44. Ibid., pp. 102-4. 45. Ibid., p. 128.

46. Ibid., p. 163. 47. Ibid., p. 168. 48. Ibid., p. 170 n. 2.

49. Ibid., p. 276. 50. Ibid., p. 279, inc. n. 4. 51. Ibid., p. 280.

52. Ibid., p. 335. 53. Ibid., p. 470. 54. Ibid., p. 470.

55. Ibid., p. 470. 56. Ibid., p. 489. 57. Ibid., p. 323.

58. Ibid., p. 384. 59. Ibid., p. 384. 60. Ibid., p. 381.

61. Ibid., p. 381. 62. Ibid., p. 381. 63. Ibid., p. 287.

64. Ibid., p. 248. 65. Ibid., pp. 248-9. 66. Ibid., p. 249.

67. Ibid., p. 219. 68. Ibid., p. 440. 69. Ibid., p. 440.

70. Ibid., p. 477. 71. Ibid., p. 477. 72. Ibid., p. 475.

73. Ibid., p. 499 n. 2.

A Sudanese Sirius System

by

M. GRIAULE and G. DIETERLEN

Note: The following article is translated and published in its entirety. It is written for professional anthropologists and ethnographers, and is presented here for the reader who is sufficiently interested in the subject to wish to pursue the source material. It is, therefore, supplementary information and is not essential for the reader who merely wishes to follow the argument.

FOREWORD

The indigenous knowledge about the Sirius system which is set forth in this

chapter has been gathered from four Sudanese peoples: the Dogon in Bandiagara, the Bambara and the Bozo in Segou¹ and the Minianka in Koutiala.

The main investigation was carried out among the Dogon between 1946 and 1950, where the four major informants were: *Innekouzou Dolo*, a woman aged between sixty-five and seventy, *ammayana* 'priestess of Amma', and soothsayer, living in the Dozyou-Orey quarter of Ogol-du-Bas (Lower Ogol Sanga-du-Haut (Upper Sanga). Tribe: Arou. Language: Sanga.

Ongnonlou Dolo, between sixty and sixty-five years old, patriarch of the village of Go, recently established by a group of Arou in the southwest of Lower Ogol. Language: Sanga.

Yibine, fifty years old, priest of the Binou Yebene of Upper Ogol, living in Bara (Upper Sanga). Tribe: Dyon. Language: Sanga.

Manda, forty-five years old, priest of the Binou Manda, living in Orosongo in Wazouba. Tribe: Dyon. Language: Wazouba.

The system as a whole was expounded by Ongnonlou, its various details by the other informants. Although he was not responsible for drawing up the Sigui calendar, Ongnonlou was acquainted with the principles behind it and, during the periods when the investigators were there, was able to obtain further information from the Arou at Yougo Dogorou on the one hand and, on the other, from the permanent steward of the supreme chieftain of the Arou at Arou-by-Ibi.² Ongnonlou is in fact patriarch of the family from which the next holder of the title will be designated when the next holiday comes around.

Ongnonlou's learning, within an extremely secret body of knowledge, thus represents an initial acquaintance or, to use a Bambara expression, a 'slight acquaintance', and this point should be kept in mind. Just as, for the layman, the star Sirius is the brightest star in the sky, attracts his gaze, and plays the major role in the computation of the Sigui, so the rules of the Sirius system as revealed to the initiated in the first instance are at once simplified in some parts and

complicated in others, so as to divert the attention from calculations which are more secret by far.

It must therefore be understood, once and for all, that the system described here represents one phase of the revelations permitted to initiates who are top-ranking but not specifically responsible for the calculations to do with this part of the sky.

For our part, the documents gathered together have not given rise to any original hypothesis or research. They have been simply pieced together in such a way that the accounts of the four principal informants are merged into one and the same statement. The problem of knowing how, with no instruments at their disposal, men could know the movements and certain characteristics of virtually invisible stars has not been settled, nor even posed. It has seemed more to the point, under these special circumstances, to present the documents in the raw.

THE CALCULATION OF THE TIME OF THE SIGUI

Every sixty years³ the Dogon hold a ceremony called the Sigui (ceremony). Its purpose is the renovation of the world, and it has been described at length by them in 1931.⁴ Since the beginning of this investigation, we were faced with the question of determining the method used to calculate the period separating two Sigui ceremonies. The common notion, which dates back to the myth of creation, is that a fault in the Yougo rock, situated at the centre of the village of Yougo Dogorou,⁶ lights up with a red glow in the year preceding the ceremony. This fault contains various altars, in particular busts of Andoumboulou (the name given to the people of small stature who formerly lived in the rocks), and a rock painting called *amma bara*, 'god helps', to which we shall refer later.

Furthermore, and before this red glow appears, a spot situated outside the village becomes covered with elongated gourds of a type which no one would have sown.

When these signs are observed, an apparently simple procedure of calculation is carried out, solely by the people of Yougo Dogorou who belong to the Arou tribe :⁶ the council of elders assesses the interval by means of thirty two-yearly drinking-bouts when beer made from millet is drunk; and the eldest elder marks up each bout with a cowrie shell.

These bouts are held about one month before the first rains, sometimes in May or June, in a tent or shelter pitched to the north of the village centre.' But this rule is only theoretical: between the last Sigui, celebrated at the beginning of the century, and 1931⁸ there has been only one bout, halfway through the period; but the two-yearly cowries were set down and gathered into a pile representing the first thirty years. From 1931 onwards, the drinking bouts took place every two years. When the second pile consisting of fifteen cowries has been collected, the second Sigui of the twentieth century will be celebrated.⁹

According to Manda, the priest, the calculation of the Sigui is recorded above the door of the sanctuary of Binou by two figures made of millet pulp representing the god Amma and his son, Nommo, Instructor of the new world.¹⁰ The first consists of a vertical oval - the egg of the world - and its major axis, Amma in the original darkness. In the right-hand half, each year is marked with a dot, starting from the bottom. When the seventh year comes round, a kind of trident is drawn on the outside, as an extension to the line of dots. The same thing is done on the left-hand side, in the order top-to-bottom. Fourteen years are counted in this way: the seven twin years during which the world was created, and to which a unit, symbolizing the whole, is added.¹¹ Diagrammatically speaking, the figure shows the god's last gesture, raising one hand and lowering the other, thereby showing that sky and earth are made.

This drawing is repeated four times, making it possible to reckon a period of sixty years; it is accompanied by the figure of the Instructor,¹² composed of two vertical legs supporting a head atop a long neck. During the first thirty years

which are recorded by two ovals, the figure features only the right leg. During the second thirty-year period, the left leg is made a little longer each year in such a way that when the Sigui actually occurs it is the same length as the right leg. It is by allusion to this figure that people talk about the Sigui ‘getting to its feet’ during this latter period.

THE CALCULATION OF THE SIGUI CEREMONIES

When it is time for the Sigui, the elders gathered in the *tana tono* shelter at Yougo draw a symbol on the rock with red ochre (fig. i), which represents a *kanaga* mask;¹³ this, in turn, represents the god Anuria; a hole is made in the ground below it symbolizing the Sigui, and thus Amma in the egg of the world. In effect these two signs should be ‘read’ in the opposite order: Amma, in the shadow of the egg (the hole) reveals himself to men (the red design) in his creative

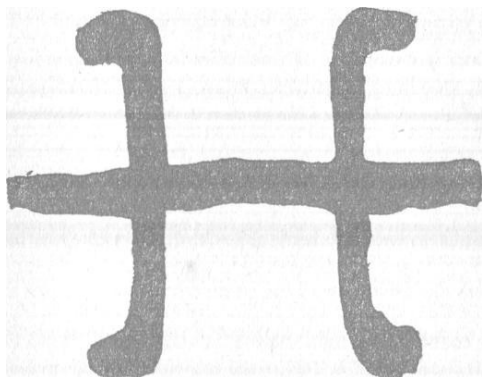


Figure i. The *Kanaga* sign, connoting the sixty-year ceremonies, at Yougo Dogorou (indigenous painting)

posture (the mask depicts the god's final gesture, showing the universe.)¹⁴

The hole is also interpreted as the hole which must be dug to put seeds in. From this viewpoint the holes are arranged in series of three, connoting three Siguis, placed respectively beneath the sign of three seeds, after which they are named. Thus the Siguì at the beginning of this century was called *emme sigi*, the 'sorghum Siguì'; the next one will be called *yu sigi*, the 'millet Siguì'; and the one after *nn sigi*, the 'haricot Siguì'.

In theory, then, it would seem possible to record the Siguis using this simple method. In practice, the holes become obliterated and the Painting, more often than not, is touched up instead of being reproduced and thus forming part of a countable series. But there is another figure painted on the façade of the sanctuaries which reveals rather more specific data; it is called *sigi lugu*, 'calculation of the Siguì', and consists of a line of vertical chevrons, the notches of which are painted alternately black, red, and white; each colour corresponds to a seed, the first to millet, the second to the haricot and the third to sorghum (fig. ii). This line can be read in two ways: Either by using just one counting system (for example the left-hand one), whereby each notch is the equivalent of twenty years; here, the notch upon which a Siguì actually falls is carried over to the following series: or, by taking the whole figure and counting twenty years for each notch, regardless of its positioning (the right column in fig. ii); here, the notch upon which a Siguì falls is recounted.

More consistent evidence of the celebration of the Siguì is provided by the large wooden mask, whose carving is one of the major concrete purposes of the ceremony. This mask - usually of considerable size¹⁵ - is seldom used, and is kept in some shelter or hideaway in the rocks, along with those which have been carved at previous ceremonies. The care with which these masks are treated - for in some ways they are the village archives - means that it is not uncommon to come across series of three or four of them, the oldest of which date back, respectively, to 1780 and 1720,¹⁶ give or take a year or two. In exceptional

cases, when the shelter has been well selected and under constant surveillance, the series may be longer still; thus at Ibi, in 1931, nine poles were counted, and these must have succeeded three more which had been reduced to a few fragments and piles of dust and were still visible; as were the special places earmarked for them at the back of the shelter, all perfectly protected from the damp, vermin and animals. The oldest in the series of nine, which showed a continuous progression of ageing in the course of time,¹⁷ thus date from the beginning of the fifteenth century; and if the three others are taken into account, the remnants of the earliest would date back to the first half of the thirteenth century.¹⁸

It is not easy to come across material evidence dating back further than the traces of these poles at Ibi. But there is another object, existing in a single edition, which is fashioned during these Sigui ceremonies and which might also be a significant milestone in the calculation process. With the festival in mind, each regional Hogon, as well as the supreme Hogon of Arou, has a fermentation stand woven out of baobab fibres; this stand is used during the preparation of the first ritual beer. This beer is distributed in small quantities to each family; it is then added to everybody's cup, and thus ensures the homogeneous-ness of the beer drunk by the community. In addition to this, all the other fermentation stands are associated, by contact, with the principal one, which is exceptionally large: the lid measures 40 cm. (16 in) in diameter, and the four 'pompoms' are the size of the normal object. As a result, it can only enter the large jars.

These objects are kept in the Hogon's house where they are hung

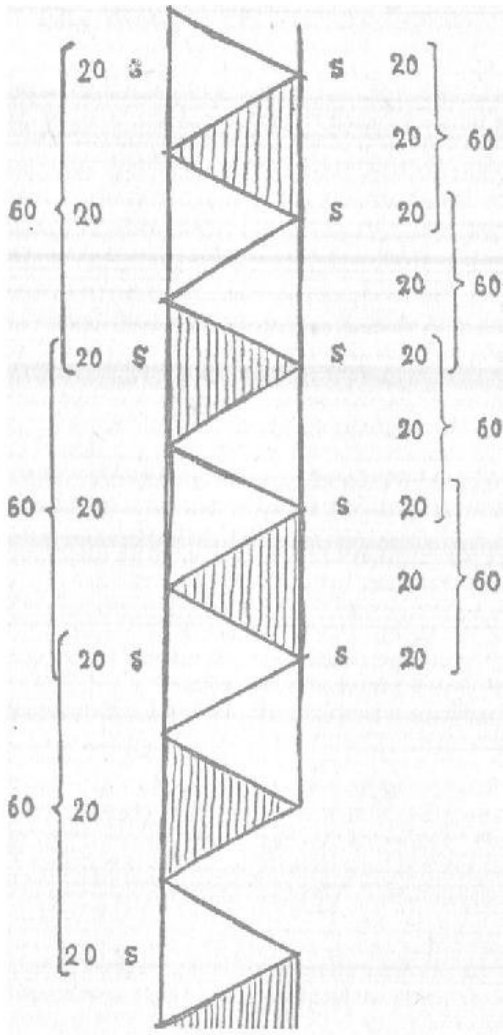


Figure ii. The calculation of the Sigui

from the main beam, and thus form a permanent sequence. Ongnonlou saw six or seven of them in the official residence of the Hogon of Sanga; the latter, one of the oldest men in Dogon country, has it that his great-great-grandfather had seen eight others which preceded the oldest in the present series.¹⁹ Assuming a total of fourteen objects for the Sanga chieftainry, the first - which almost certainly does not denote the first ceremony held in this region - would have been woven in the twelfth century, if one reckons on the period separating two Siguis being sixty years.

Again, Ongnonlou counted a series of eight in the house of the supreme Hogon

of the Arou, at Arou-by-Ibi. But he adds that the number 'should' be twenty-four, although he cannot explain if there is an ideal series which a complete sequence would aim for, or which, conversely, would correspond to reality if the fibres had not turned to dust.²⁰

The methods described above for both keeping track of the ceremonies and for calculating the intervals between Siguis are simple and tend to be mnemotechnic. For the initiate they simply act as understudies for other more complex practices and knowledge to do with the Sirius system. The Dogon names for this star - *sigi tolo*, star of the Sigui,²¹ or *yasigi tolo*, star of Yasigui²² - sufficiently indicate its relation with the ceremony of the renovation of the world which takes place every sixty years.

Sirius, however, is not the basis of the system: it is one of the foci of the orbit of a tiny star called Digitaria, *po tolo**³ or star of the Yourougou,²⁴ *yurugu tolo*, which plays a crucial role, and which, unaided as it were, hogs the attention of male initiates.

This system is so important that, unlike the systems of other parts of the sky, it has not been assigned to any particular group. In effect the Ono and Dommo tribes govern the stars, the former including Venus rising among its attributes, the latter Orion's belt. The sun should be assigned to the most powerful tribe, the Arou; but so as not to be guilty of excess, the Arou handed the sun over to the Dyon, who are less noble, and hung on to the moon. As far as the star Digitaria and the system to which it belongs are concerned, these are common to all men.

THE ORBIT OF DIGITARIA

The orbit described by Digitaria around Sirius is perpendicular to the horizon, and this position is alluded to in one of the most common ceremonies in which masks play a part: *laba ozu p<? ozugo po ya* (the path of the mask (is) straight (vertical) this path runs straight) But if one takes the pun into account - familiar to the initiated -between *po*:²⁵ 'straight' and *po*: Digitaria, the translation becomes: the path of the mask (is the star) Digitaria the path runs (like) Digitaria.

A figure made out of millet pulp (fig. iii) in the room with the dais in the house of the Hogon of Arou gives an idea of this trajectory, which is drawn horizontally: the oval 'lengthwise diameter (about

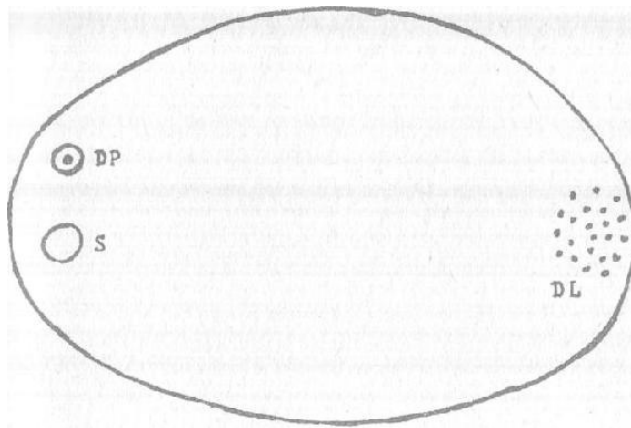


Figure iii. The trajectory of the star Digitaria around Sirius

100 cm. = 40 in.) contains to the left a small circle, Sirius (S), above Which another circle (DP) with its centre shows Digitaria in its closest position. At the other end of the oval a small cluster of dots (DL) represent the star when it is farthest from Sirius. When Digitaria is close to Sirius, the latter becomes brighter; when it is at its most distant from Sirius, Digitaria gives off a twinkling effect, suggesting several stars to the observer.²⁶

This trajectory symbolizes excision and circumcision, an operation Which is represented by the closest and furthest passage of Digitaria

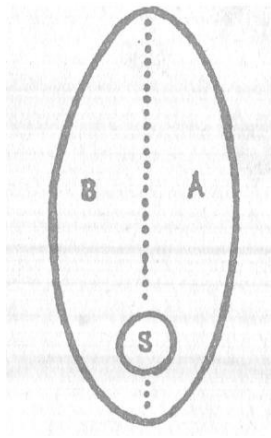


Figure iv. The symbolism of the trajectory of Digitaria. S: Sirius, A: knife, B: foreskin

to Sirius. The left part of the oval is the foreskin (or clitoris), the right part is the knife (fig. iv).

This symbolism is also expressed by a figure used for other performances²⁷ (fig. v). A horizontal figure rests on a vertical axis which connects two circles: S (Sirius) and D (Digitaria); the centre of the figure is a circle T, which represents the trajectory of D. The line E is the penis, the hook B¹ the foreskin. Two horns hinge on the circle and reproduce once again the two parts of the trajectory (cf. fig. iv): A, the knife; B, the foreskin. Thus the Sirius system is associated with the practices of renovating people, and, consequently - in accordance with the Black mentality - with the ceremonies which celebrate the renovation of the world.

The period of the orbit is counted double, that is, one hundred years,²⁸ because the Siguis are convened in pairs of 'twins', so as to insist on the basic principle of twin-ness.²⁹ It is for this reason that the trajectory is called *munu*, from the root *monye* 'to reunite', from which the word *munu* is derived, which is the title given to the dignitary who has celebrated (reunited) two Siguis.

According to Dogon mythology, before the discovery of Digitaria the supreme chief was sacrificed at the end of the seventh year of his reign (the seventh harvest). This was the only computation known about; the year-unit had not then been established. The spiritual and

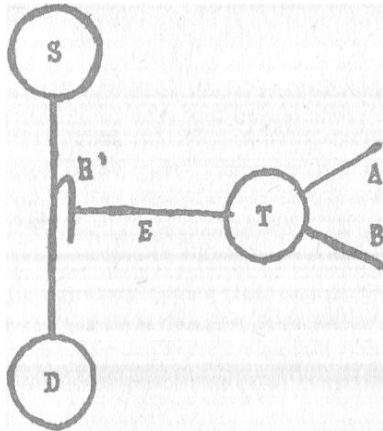


Figure v. The symbolism of Digitaria. S: Sirius, D: Digitaria, T: trajectory of Digitaria, A: knife, E: penis, B and B': foreskin

material principles of the victim were conveyed to Digitaria - to regenerate the victim - whose existence was known but whose features had not been revealed to man, because the star was invisible.

This was the rule for forty-nine years for the first seven chiefs who thus nourished the star, and enabled it to renovate the world periodically. But, having discovered the star, the eighth chief resolved to avoid the fate of his predecessors: with his son's complicity, he feigned death, lay dormant for a few months and reappeared before the chief who had succeeded him; he announced that he had been to Digitaria, knew its secrets, and that, from then onwards, every Hogon would reign for sixty years - the period which would later separate one Sigui from the next.³⁰ Restored to office, he raised the level of the sky which, hitherto, had been so close to the earth that it could be touched,³¹ and he completely revised the method of calculating time, and the method of reckoning.

Until that time the ceremonies celebrating the renovation of the World had in fact taken place every seventh harvest;³² the Hogon made his calculations on the basis of five-day periods, a unit which established the week as it still is today, and five harvest cycles. And as he Was eighth in line, he counted eight cycles, in other words forty years, and the number forty became the basis for computation: the month had forty days, the year forty weeks (of five days each). But the Hogon lived sixty years, a number which was interpreted as the sum of forty (basis of calculation) and twenty (the twenty fingers and toes, symbolizing the person and thus, in the highest sense of the word, the chief). Thus sixty became the basis for calculations³³ and it was first applied to establish the period of time separating two Siguis. Although the orbit of Digitaria takes approximately fifty years and although it corresponds to the first seven reigns of seven years respectively, it none the less computes the sixty years which separate two ceremonies.³⁴

As well as its movement in space, Digitaria also revolves (rotates) upon itself over the period of one year and this revolution is honoured during the celebration of the *bado* rite. On this occasion it ejects from its three spirals the beings and the things which it contains. This day is called *badyu*, 'surly father', because it is marked by a general movement of the world which upsets people and places them in an unsure relationship with themselves and with each other.

THE ORIGINS AND FEATURES OF DIGITARIA

The eighth Hogon instructed his people in the features of the star, and, more generally, of the Sirius system.

Sirius appears red to the eye, Digitaria white. The latter lies at the origin of things. 'God created *Digitaria* before any other star'.³⁵ It is the 'egg of the

world', *aduno tal*, the infinitely tiny and, as it developed, it gave birth to everything that exists, visible or invisible.³⁶ It is made up of three of the four basic elements: air, fire and water. The element earth is replaced by metal.³⁷ To start with, it was just a seed of *Digitaria exilis*,³⁸ *po*, called euphemistically *kize uzi*, 'the little thing',³⁹ consisting of a central nucleus which ejected ever larger seeds or shoots in a conical spiral motion (fig. vi). The first seven seeds or shoots are represented graphically by seven lines, increasing in length, within the sac formed in turn by an oval symbolizing the egg of the world.

The entire work of *Digitaria* is summarized in a drawing whose various parts are carried out in the following order:⁴⁰ a vertical line issues from the oval - the first shoot to emerge from the sac; another segment, the second shoot, takes up a crosswise position, and thus supplies the four cardinal points: the stage of the world. The straight-ness of these two segments symbolizes the continuity of things, their perseverance in one state. Last, a third shoot, taking the place of the first, gives it the form of an oval which is open in its lower section, and surrounds the base of the vertical segment. The curved form, as opposed to the straight, suggests the transformation and progress of things. The personage thus obtained, called the 'life of the world', is



Figure vi. The origin of the spiral of creation (indigenous drawing: actual size)

the created being, the agent, the microcosm summarizing the universe.

In its capacity as the heavy embryo of a world issued each year, Digitaria is represented in Wazouba either by a dot or by a sac enveloping a concentric circle of ten dots (the eight ancestral Nommos and the initial couple of Nommo). Its continual movement produces beings whose souls emerge at intervals from the dots and are guided towards the star Sorghum⁴¹ which sends them on to Nommo. This movement is copied by the rhombus which disperses the creation of the Yourougou in space. Six figures are arranged around the circle, as if ejected from it (fig. vii):⁴²

a two-pronged fork: trees;

a stem with four diagonal lines: small millet;

four dots arranged as a trapezium: cow with its head marked by a short line;⁴³

four diverging lines starting from the base of a bent stem: domestic animals; four dots and a line: wild animals;

an axis flanked by four dots: plants and their foliage.⁴⁴

The original work is likewise symbolized by a filter-basket made of straw called *nun goro*, 'bean cap'. This utensil consists of a sheath in the form of a continuous helical spiral, the centre of which starts at S.M.—4 69

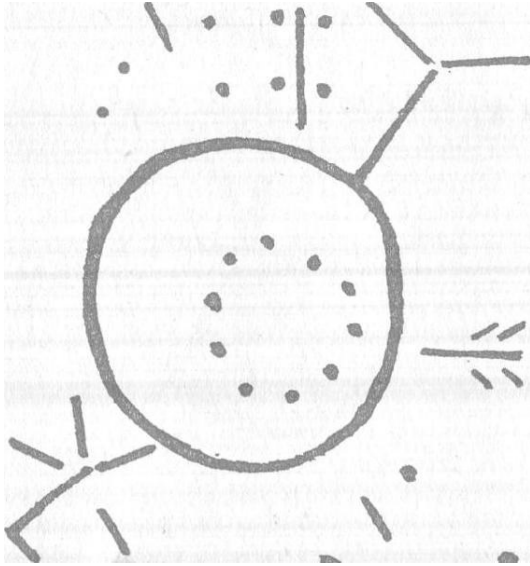


Figure vii. The star Digitaria (indigenous drawing: actual size⁴⁵)

the bottom.⁴⁶ The spiral supports a network of double radii.⁴⁷ The spiral and the helix are the initial vortical motion of the world; the radii represent the inner vibration of things.

Originally, then, Digitaria is a materialized, productive motion. Its first product was an extremely heavy substance which was deposited outside the cage of movement represented by the filter-basket.⁴⁸ The mass thus formed brought to mind a mortar twice as big as the ordinary utensil used by women.⁴⁹ According to the version told to the men, this mortar has three compartments: the first contains the aquatic beings, the second, terrestrial beings, and the third, the creatures of the air. In reality the star is conceived of as a thick oval forming a back-cloth from which issues a spiral with three whorls (the three compartments).

According to the version instructed to the women, the compartments are four in number and contain grain, metal, vegetables and water. Each compartment is in turn made up of twenty compartments; the whole contains the eighty

fundamental elements.

The star is the reservoir and the source of everything: 'It is the granary for everything in the world.'⁵⁰ The contents of the star-receptacle are ejected by centrifugal force, in the form of infinitesimals comparable to the seeds of *Digitaria exilis* which undergo rapid development: 'The thing which goes (which) emerges outside (the star) becomes as large as it every day.'⁵¹ In other words, what issues from the star increases each day by a volume equal to itself.

Because of this role, the star which is considered to be the smallest thing in the sky is also the heaviest: 'Digitaria is the smallest thing there is. It is the heaviest star.'⁵² It consists of a metal called *sagala*,⁵³ which is a little brighter than iron and so heavy 'that all earthly beings combined cannot lift it'. In effect the star weighs the equivalent of 480 donkey-loads⁵⁴ (about 38,000 kg. = 85,000 lb.), the equivalent of all seeds, or of all the iron on earth,⁵⁵ although, in theory, it is the size of a stretched ox-skin or a mortar.

THE POSITION OF DIGITARIA

The orbit of Digitaria is situated at the centre of the world, 'Digitaria is the axis of the whole world,'⁵⁶ and without its movement no other star could hold its course. This means that it is the master of ceremonies of the celestial positions; in particular it governs the position of Sirius, the most unruly star; it separates it from the other stars by encompassing it with its trajectory.

OTHER STARS IN THE SIRIUS SYSTEM

But Digitaria is not Sirius's only companion: the star *emme ya*, Sorghum-Female, is larger than it, four times as light (in weight), and travels along a greater trajectory in the same direction and in the same time as it (fifty years). Their respective positions are such that the angle of the radii is at right angles. The positions of this star determine various rites at Yougo Dogorou. Sorghum-Female is the seat of the female souls of all living or future beings.⁵⁷ It is euphemism that describes them as being in the waters of family pools: the star throws out two pairs of radii (beams) (a female figure) which, on reaching the surface of the waters, catch the souls.

It is the only star which emits these beams which have the quality of solar rays because it is the 'sun of women', *nydn nay*, 'a little sun', *nay dagi*. In fact it is accompanied by a satellite which is called the 'star of Women', *nydn tolo*, or Goatherd, *enegirin* (literally: goat-guide), a term which is a pun on *emme girin* (literally; sorghum-guide). Nominally then it would be more important as the guide of Sorghum-Female. Furthermore, there is some confusion with the major star, the Goatherd, which is familiar to everyone.

The star of women is represented by a cross,⁵⁸ a dynamic sign which calls to mind the movement of the whole Sirius system (fig. viii).



Figure viii. The star of women

Sorghum-Female is outlined by three points, a male symbol of authority, surrounded by seven dots, or four (female) plus three (male) which are the female soul and the male soul (fig. ix).

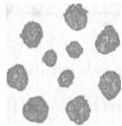


Figure ix. The star Sorghum-Female

Taken as a whole, the Sorghum-Female system is represented by a circle containing a cross (the four cardinal directions), whose centre consists of a round spot (the star itself) and whose arms serve as a receptacle for the male and female souls of all beings. This figure, called the 'Sorghum-Female pattern', *emtne ya tonu*, occupies one of the centres of an ellipse called 'the pattern of men', *anan tonu*, consisting of a full line called the 'goatherd's course', *enegirin ozu*, flanked by two dotted lines, the outside of which is the path of the male souls, and the inside the path of the female souls (fig. x).

The Sirius-Digitaria-Sorghum system is represented by a 'pattern

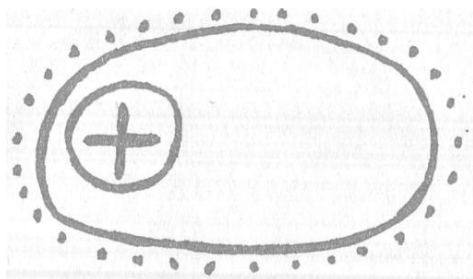


Figure x. The Sorghum-Female system

of the Sigui', *sigi tonu*, consisting of an oval (the world) in which one of the centres is Sirius. The two alternate positions of Digitaria at the time of the Sigui are marked and the positions at the same moment of Sorghum-Female are marked on two concentric circles encompassing Sirius.

The Sirius system as a whole is drawn at Sanga in different ways, in particular at the *bado* ceremony. On the facade of the residence of the great Hogon of Arou and inside the official houses assigned to the Hogons of Dyon, the course of these stars is represented by 'the pattern of the master of the star of the Shoemaker', *dyan tolo bam tonu* (fig. xi), composed of a vertical axis supporting, two-thirds of the way up, a bulge, Sirius (S), and broken at its base to form an elongated foot jutting to the left at right-angles, the course of the star of the Shoemaker (C). It is topped by a semi-oval whose arms extend quite low down; the meeting-point (D) with this oval symbolizes Digitaria, whose course is traced by the right arm (F). But this arm is also the star of women whilst the left arm is Sorghum-Female (E). The lower part of the axis (SC), longer than the upper part (SD), reminds one that the Shoemaker (C) is farther than Sirius is from the other stars, and revolves in the opposite direction.

Thus it is that during the *bado* ceremony the oldest woman of the family draws, at the entrance to the house, the 'pattern of the world of women', *nyan aduno tonu*,⁵ or 'pattern of the top and bottom of the World', *aduno dak donule tonu* (fig. xii).

It consists of an oval, the egg of the world, containing nine signs: *Da*. - Digitaria. The open curve on the right indicates the acceptance of all the substances and matter placed in it by the Geator.

Db. - Digitaria in its second position. The open oval below marks

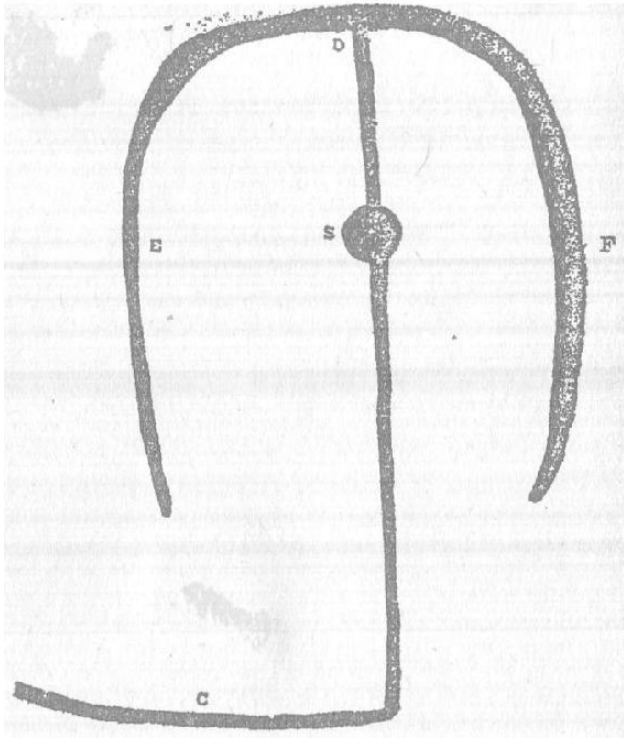


Figure xi. The course of the stars of the Sirius system

the exit of the matter which spreads across the world; A and B also indicate the extreme positions of Digitaria in relation to Sirius.

E. - The star Sorghum-Female, counterpart of Digitaria. As it is the ‘sun of women’, it is placed at the centre of the egg, like the sun at the centre of the solar system. The oval is framed by two times two small vertical lines symbolizing the rays emitted by the star.

S. - Sirius, ‘star of the Sigui’ or ‘star of Yasigui’. The sign, so placed that it materializes the liaison worked by Sirius between the two stars described above,

consists of a kind of X with one right arm -the ant, *key* - dividing a curved arm, the lower part of which is Yasigui, and the other part the piece of the organ which is detached

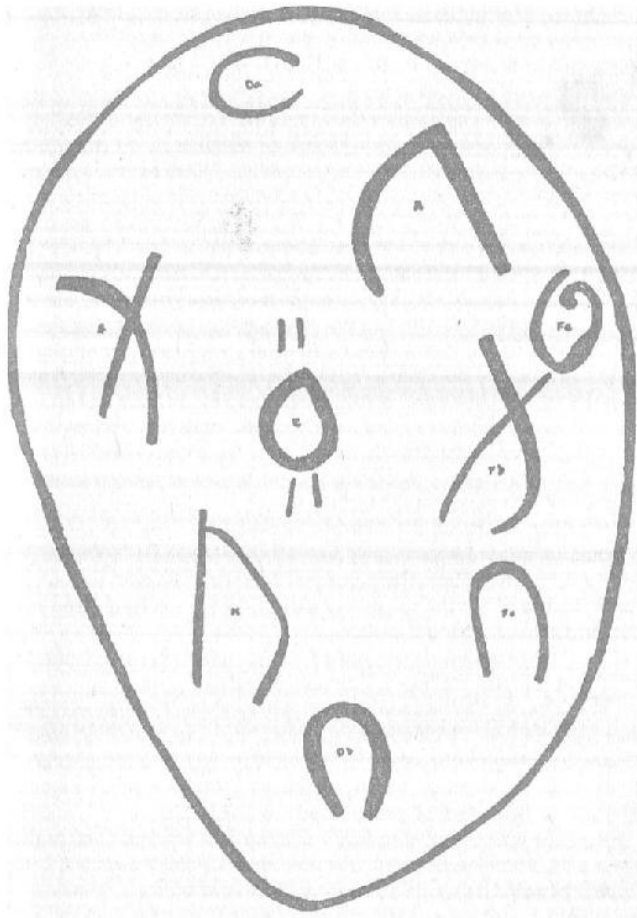


Figure xii. The Sirius system

during excision. Although female, the ant is here depicted by a straight rod, as if it were a man. This marks its domination of Yasigui's femininity, for Yasigui is maimed. R. - The Yourougou. A hook, made up of a circular arc and a straight segment indicates that the first movement of the Yourougou describes a curve which goes around the sky; falling short of the goal, it descended directly, as is shown by the right-hand segment which is also the piece of bared placenta.⁶⁰

In effect, with Digitaria as the egg of the world (see earlier) this latter was split into two twin placentas which were to give birth respectively to a pair of Nommo Instructors. What happened, however, was that a single male being emerged from one of the placentas; in order to find his twin, this being tore off a piece of this placenta, which became earth. This intervention upset the order of creation: he was transformed into an animal, the pale fox, *yuruga*,⁶¹ and communicated his own impurity to the earth, which rendered it dry and barren. But the remedy to this situation was the sacrifice, to the sky, of one of the Nommo Instructors which had issued from the other placenta, and the descent of his twin to earth with life-giving, purifying rain.⁶² The destiny of Yourougou is to pursue his twin to the end of time -the twin being his female soul at the same time. On the mythical level, Digitaria is thus considered to be the Yourougou held in space by Nommo, relentlessly revolving around Sirius, or Yasigui in other words, and never capable of reaching it.

N. - The figure of the Nommo consists of a vertical segment, Nommo in person, upon which, .and slightly below the upper edge, rests a line broken into three unequal parts; the first is the seat of future female souls; the second the seat of the souls of the dead; and the third the seat of living souls.

Fa. - The star of Women, *nyan tolo*. An embryonic spiral calls to mind that it is the satellite of Sorghum-Female.

Fb. - The 'sign of women', *nyan tonu*, consists of a diagonal line, man, cut by a line which ends in a convex curve, woman. This shows the contact between the sexes.⁶³ The rod is upright with astonishment at the sight of creation, which started with the system of women. Woman is a heavy-bellied profile, ready to give birth.

Fc. - The sex of women is depicted by an oval which is open in the lower part, womb-world, ready for procreation, gaping downwards to spread the seeds.

THE SIRIUS SYSTEM AMONG THE BAMBARA

The Bambara call Sirius ‘the star of the foundation’, *sigi dolo*, which is the same term used by the Dogon, and like them they call the star Digitaria *fini dolo*.⁶⁶ The expression *fa dolo jla*, ‘the two stars of knowledge’, is generally attributed to it, because ‘it represents in the sky the invisible body of Faro’, conceived as a pair of twins.⁶⁶ This name also implies that the star is the seat of all learning.

The Sirius system is depicted on the chequered blanket called *koso mla*, ‘coloured picture’, consisting of ten sequences made up of some thirty rectangles coloured alternately indigo and white which symbolize, respectively, darkness and light, earth and sky, and, in Bambara mythology, Pemba and Faro. Scattered throughout there are twenty-three rectangles with different patterns of small stripes placed in the direction of the thread, alternating the indigo, white and red. Twenty of them represent stars or constellations; the other three respectively represent the rainbow, hailstones and rain. The fifth sequence in the centre, in which there is no coloured rectangle, symbolizes the Milky Way. The ninth sequence, at one end, contains five black (not indigo) rectangles which point to the ‘fifth creation, in darkness, which will occur with the arrival of the waters to come’.⁶⁶

Sigi dolo is first depicted alone ‘in the cold season and in impurity’ by the ninth rectangle (third sequence); it is next depicted flanked by *fa dolo fla* (two red lines) in the fifteenth rectangle (eighth sequence).⁶⁷ In Bambara mythology, Sirius represents Mouso Koroni Koundye, twin of Pemba, maker of the earth, a mythical woman whom he chased through space and was never able to catch. In every respect Mouso Koroni Koundye is comparable to Yasigui.⁶⁸ She inaugurated circumcision and excision and, as a result, Sirius is the star of circumcision, for both Bambara and Dogon alike.

THE SIRIUS SYSTEM AMONG THE BOZO

The system is also known to the Bozo, who call Sirius *sima kayne* (literally: sitting trouser) and its satellite *toiio tialema* (literally: eye star).

Notes

1. A member of the Bambara living in Bandiagara also confirmed the most important features of the system.

2. Various pieces of information were supplied direct by the people of Yougo-Dogorou in 1931, 1936, 1948, 1949 and 1950.

3. We ourselves accepted this figure in 1931 and it can safely be retained for the time being.

4. Cf. Griaule, *Masques Dogons*, Travaux et Memoires de l'Institut d'Ethnologie de l'Universite de Paris, vol. xxxiii (1938), chapter 1.

5. Ibid., pp. 167 ff., where this fault in the rock is described in detail.

6. The Dogon are divided into four tribes, each of which had a different role at

one time. The four are the Arou (soothsayers), the Dyon (farmers), the Ono (merchants), and the Doramo (who were confused in this respect with the Ono).

7. The spot is called *tdna tone*; cf. Griaule, op. cit., p. 171.

8. Or 1933.

9. Probably in 1961 or 1963, if this computation is valid. (The information came from a prominent member of the Yougo aged between fifty-five and sixty.) It is a matter of common knowledge that the next Sigui will not be celebrated for another ten years or so (we were told this in late 1950).

10. These figures are described in M. Griaule and G. Dieterlen, 'Signes graphiques soudanais' *L'Homme*, 3 (Paris: Hermann).

11. The Dogon count a week of five days as six days, just as in French a week of seven days is referred to as 'eight days' and a fortnight as 'fifteen days'.

12. For a discussion of this substitute for God the Creator cf. Griaule, *Dieu d'eau*, Paris, Editions du Chene, 1948.

13. For a description of the mask cf. *Masques Dogons*, pp. 470 ff. 14. This information came from a prominent member of the Yougo Dogordu. According to all the initiates, the *kanaga* mask represents on the one hand the static gesture of the god, and on the other hand the swastika, through the repetition of the same gestures at an angle of 90° to the first. The second figure represents the god whirling round as he comes down to earth to reorganize the world in chaos.

15. The largest known example is ten metres long. It was brought back by the Dakar-Djibouti Mission and given to the Musee de l'Homme in Paris; cf. M. Griaule, *Masques Dogons*, pp. 234 ff.

16. Thus the Yendoumman Damma niche contains three specimens; the

Yendoumman Banama contains four; the Yendoumman Da, three; the Barna, four; and the Ennguel-du-Bas, three. Cf. M. Griaule, *Masques Dogons*, pp. 242 ff.

17. Ibid., pp. 245 ff.

18. For another index that enables us to establish the minimum age of some of the villages, cf. Griaule, 'Le Verger des Ogol (Soudan français)', *Journal de la Societe des Africainistes*, xvii, pp. 65-79.

19. The Hogon of Sanga, who was enthroned in 1935, was thus the oldest man in the area at that date (i.e. the oldest of the Dyon). If we agree that he was born in about 1855, his great-grandfather, who, he claims, was very old when he himself was a young goatherd, was probably born between 1770 and 1780.

Each fermenting-receptacle is evidence of the Sigui for which it was woven and is known as such. This means that these objects form a sequence that is considered by the people to be more than purely numerical.

20. The period indicated by a series of this kind would be 1,440 years by the time the next Sigui came round. It would apparently correspond to the sequence of sixty reigns in which each Hogo appears and which itself covers a period of about 1,500 years. The supreme chiefs of the Arou tribe are in fact chosen when still young, unlike the practice current among the other tribes. The average reign is likely to be twenty-five years.

21. *Sigo dolo* in Bambara.

22. For a discussion of this mythical figure, who corresponds to the Bambaras' Mouso Koroni, see later in this article.

23. The *po*, *Digitaria coilis* is commonly called 'fonio' in West Africa.

24. For a discussion of this mythical figure see later in text.

25. In the song the vowel becomes slightly nasal.

26. The saying that 'if you look at Digitaria it's as if the world were spinning (*po tolo yenene aduno gonode ginmo*) was probably coined to convey this impression.

27. Cf. M. Griaule, 'Signes graphiques des Dogon', in M. Griaule and G. Dieterlen, 'Signes graphiques soudanais', *L'Homme*, 3 (Paris, Hermann).

28. In the system of notation based on the figure 80 this number is called '80 and 20'. The period of fifty years is very close to that of Sirius's companion. Cf. P. Baize, 'Le Compagnon de Sirius', *L'Astronomie* (Sept. 1931), P-385-29. For a discussion of this principle cf. Griaule, *Dieu d'eau*, pp. 183 ff.

30. After this reform the Hogons' sacrifice was replaced by animal sacrifice.

31. This belief still obtains among the Dogon, and also among many other peoples; cf. Griaule, *Jeux Dogons, Travaux et Memoires de l'Institut d'Ethnologie* de l'Universit  de Paris, vol. xxxii.

32. For a discussion of the symbolism attached to the number 7 cf. Griaule, *Dieu d'eau*, p. 60.

33. The figure 60 is the old base of the system of notation still used in the Sudan for a number of ritual calculations. In several Sudanese languages 60 is known as the 'Mande calculation', because the system is believed to have spread from Mand . Nowadays the various districts use 80 as a base for their calculations. Cf. G. Dieterlen, *Essai sur la religion Bambara* (Paris: PUF).

34. There is a contradiction here that has not so far been solved. On the one hand the Dogon accept that Digitaria is in orbit for fifty years and this figure governs the way the Sigui is calculated. On the other hand Siguis are held at sixty-year intervals. Nevertheless, it should be noted that the date of the last

Sigui, which was celebrated at the very beginning of the twentieth century, was allegedly brought forward. Does this indicate that the date was regularly brought forward for each ceremony? The uninitiated would thus be kept going with the idea that the official period was sixty years and that, for accidental reasons, it happened to be reduced to a half-century.

The foregoing myth is given here as an indication of the changes or combinations in the system of computation that occur in the 'history' of the black peoples.

3S> *po tolo amma, tolo la a>oy manu.*

36. According to Innekouzou, *po tolo*, 'Digitaria star', has a hidden etymological derivation from *polo to*, 'profound beginning'.

37-See below.

38. The *Digitaria* seed is made up of four parts, only one of which, the outer casing, has a name, *kobu*. The other three are known as *yolo*.

39. This expression is always being used by Manda, whose extremely punctilious mind thus avoids even mentioning the name of one of the most basic tabus of the totemic priests.

40. For further details cf. Griaule, 'Signes graphiques des Dogons'. See also Griaule, 'L'image du monde au Soudan', *Journal de la SocieU des Africainistes*, xix, 2, pp. 81-9.

41. Cf. below.

42. They are counted clockwise, starting from the highest figure on the right-hand side.

43. This cow is an avatar of the Nommo.

44. It should be remembered that the Dogon, like the other black peoples, use several different symbols or even several different sequences of images to express a single idea or object. Conversely, a symbol often represents several different things.

45. This drawing is executed in Wazouba inside the sanctuaries during the festival of *agu*.

46. The shape of this basket is roughly the same as the outline of a mortar.

47. On the system of symbols represented by this basket.

48. It is understood that *Digitaria* was the same shape as a basket, but was not a basket.

49. The initiates have a different idea of these dimensions.

50. *aduno kize fu guyoy*.

51. *kize 1vogonode para gway wokuwogo dega bay tuturu byede*.

52. *po tolo kize woy wo gayle be dedemogo wo sige be*.

53. This has the same root as *sagatara*, 'strong, powerful' (native etymology).

54. The number 480 is the product of the base number 80 times the number of tens in the base number 60, which was formerly in use. It is used here to symbolize the largest number of all.

55. Versions of, respectively, Innekouzou, Manda and Ongnonlou.

56. *po tolo aduno fu dudun gowoy*.

57. The men have two twin-souls of different sexes. Cf. Griaule, *Dieu d'eau*, pp. 183 ff. The same idea is current among the Bambara, cf. Dieterlen, *Essai sur la religion Bambara*, chapter 3.

58. The figures reproduced here are used in Wazouba.

59. This figure was taught to Ongononlou in August 1950, by the Hogon of Sanga.

60. Yourougou, who was born a single being, is fated to pursue the female soul that is his ideal twin to the end of time. In particular he tried to seize it by snatching away from his mother, the Earth, part of the placenta that emerged after he was born, because he thought it was his twin soul.

61. *Vulpes pallida*.

62. Cf. Griaule and Dieterlen, 'Le harpe-luth des Dogon', *Journal de Societe des Africainistes*, xx, 2.

63. A man could just as well call it *anam torn*, 'drawing of men'.

64. *Fini*, from which *fotiio*, a word used throughout Sudanese Africa, is derived, is the same word as *po*.

65. The expression may possibly indicate the Sirius and Digitaria grouping, or Digitaria and another companion. For Faro, or Fanro, the Bambara equivalent of the Dogon Nommo, cf. Dieterlen *Essai sur la religion Bambara*, chapters 1 and 2.

66. Cf. *ibid.*, chapter 1. This refers to a future world that will be heralded by flood-waters.

67. The *koso wata* blanket, which is worn by elderly initiates at the major Bambara institutions (*dyo*), belongs to a series of eight ritual blankets with patterns and colours representing mythology, cosmology and the social structure. They are used at night or worn as clothing, depending on the status, duties and aims of the wearer. Apart from their economic value, they are evidence of the wearer's knowledge. Their ritual use is plain, particularly during marriage ceremonies. The Dogon have similar blankets. The one known as *yanunu* represents a sort of very rough map of the world showing the most important stars.

For a discussion of the way the Bambara and Dogo set great store by weaving and the various cotton strips, cf. Dieterlen, *Essai*, chapter 5, and Griaule, *Die d'eau*.

68. For a discussion of the parallels between Mouso Koroni Koundye and Yasigui, cf. Dieterlen, *Essai*, chapter 1. For a discussion of Mouso Koroni Koundye, Pemba and Faro, cf. S. de Ganay, 'Aspect de mythologie et de symbolique bambara', *Journal de psychologie normale et pathologique* (April/June 1949); Dieterlen, *Essai*, chapters 1 and 2.

PART TWO

The Sirius Question is Rephrased

INTRODUCTION

We shall turn now to the star Sirius in history. What was its importance, if any, in ancient religions? Is there evidence from the ancient cultures that the mysterious details of the Sirius system were known to others than the Dogon tribe? And can we discover where the Dogon got their information?

I must warn the reader that Part Two is difficult, by the nature of its subject-matter. I have tried to make it readable, but beg the reader's indulgence if I have not succeeded. It is exciting material and the reader should stick with it. I am certain he will come out at the end of the tunnel with a great deal of amazement. For the ancient cultures are far more bizarre than the ordinary person is generally led to expect.

CHAPTER TWO

A Fairytale

Once there was a beautiful bright star named Sothis, as fine as any goddess. She had long held a dominant position in the sky and been admired by all for her beauty. But of late she had felt unwell; indeed, it distinctly seemed to her that she felt her life ebbing away. Night by night she fell further from her high, proud place in the sky - closer to the skyline and what must surely be her certain death. Failing, failing, she clung to any companion star she could find, only to discover that they too felt this deathly weakness, and were sinking into a kind of sweet sleep. What was she to do? She felt her strength going nightly; she could hardly shine the way she wished. Once she had been as glamorous, as scintillating a queen of the night sky as ever had been seen. And now she felt she was as worthless as any old woman, her position at the centre of things gone, and her beauty fading steadily.... Towards the end she wept bitterly and her eyes reddened with the shame of her coming eclipse. She was so ill, her discomfort so acute. She was almost glad to welcome her fate, and that terrible line of earth and hills which she had dreaded, at last devoured her brilliant presence entirely. The night came and she was no more. Beneath the earth she rested in the balm of death.

But because this queen of the sky had been good during her ascendancy and had not been too haughty or vulgar, there were many admirers of her beauty to mourn her passing. Down on the lowly earth moved less brilliant mortals. Many nights they had stood in awe of the beautiful Sothis when she was in her prime. Some, indeed, had watched her birth when, red as a baby from the womb or as the Sun when he rises daily, this bright and beautiful immortal (or so she had seemed) had first flashed the most piercing and glittering rays of her incomparable presence sideways across the earth - seeming almost to scorch the very ground with her flaming beauty. This first appearance had been brief, for immediately behind her had come the all-engrossing grandeur of the great Sun himself. Heedless of Sothis, he soon washed the sky white with his splendour. All the stars dissolved like tiny drops of milk, lost when their bowl is suddenly

filled to overflowing. So great was the Sun, so irresistible his presence - he whom some compared to a great wild bull bellowing and lording it over the heavens and the earth alike. But every night the Sun retired to his resting place, and night by night the flaming goddess Sothis entranced and bewitched mortal men, as she rose steadily higher and grew to great perfection. And further and further ahead of the Sun she rose each night.

But with her absence, how barren, how bleak, the sky now seemed. The disappearance of this renowned beauty from the vault of the heavens seemed such an unbearable deprivation. How the goddess was missed! Many mortal men shed bitter tears not to see the beauty who had infatuated them with her glancing eyes, her winsome smile, her slim waist and delicate feet. Were they never again to see her light tread in the celestial round dance of the stars?

Day followed night, and the sorrow of many became soothed by time's healing wings, which slowly fold themselves around the sufferer in invisible layers of sleep, forgetfulness, and the new interests which life must bring. The beautiful Sothis, though mourned, was lost only to the sight. For all remembered her, and that image of her burned into memory was so glorious, that to expect her actual presence came to seem almost too much to ask of many-hued, shifting, and various Fate.

Seventy days had elapsed. Hope had long since been abandoned to acceptance; sorrow had become numb. A shepherd had gone out before sunrise to his lambs now fully six months old. The Sun would not long be delayed, it was approaching the time of daybreak. The shepherd looked towards the skyline in the east. And as he looked, he saw the horizon burn with a refulgent fire, and the shimmering red birth of the goddess. It was she, it must be she! No other star had that aura, such a penetrating persona. The shepherd stood transfixed; his eyes were seared by this fresh star, dripping it seemed, with the waters of life, and aflame also with the fiery resurgence of its renewed existence. As the quick Sun behind her moved up to erase Sothis's tantalizingly brief appearance, the shepherd turned and ran to the nearest settlement. 'Awake! Awake I The goddess has returned! She is reborn, immortal, come back from death!' And all the devotees assembled with excitement and renewed hope. They heard the tale, saw for themselves the next morning, and they instituted a yearly celebration.

This celebration exists to this day, and many are the temples, many are the priests, who gather in the month of July throughout all our land of Egypt to witness the much-heralded yearly rebirth of the great Sothis, Mother Isis, bestower of concord and blessings to her people. And in honour of her seventy days spent in the underworld, we have instituted the seventy-day embalming and mummification rites for our own dead, as it is pious and indeed right that we should do.

I wrote this fairytale, from the point of view of an ancient Egyptian priest, in order to convey to the reader not only certain facts but also certain equally important and, unfortunately, extinct emotions. For the attitudes and feelings of ancient peoples are just as important as the dry description of what facts they believed.

Sothis was the ancient Egyptian name for Sirius as it was spelt by the Greeks. The Egyptians had a Sothic calendar and the first appearance of Sirius on the eastern horizon just before the sun - after 70 days in the Duat (Underworld) - was what is called the heliacal rising (or 'with-the-sun' rising) of Sirius. This event occurred once a year and gave rise to the Sothic Calendar, whose details we need not go into.

The heliacal rising of Sirius was so important to the ancient Egyptians (as indeed it is to the Dogon as well¹) that gigantic temples were constructed with their main aisles oriented precisely towards the spot on the horizon where Sirius would appear on the expected morning. The light of Sirius would be channelled along the corridor (due to the precise orientation) to flood the altar in the inner sanctum as if a pin-pointed spotlight had been switched on. This blast of light focused from a single star was possible because of the orientation being so incredibly precise and because the temple would be otherwise in total darkness within. In a huge, utterly dark temple, the light of one star focused solely on the altar must have made quite an impact on those present. In this way was the presence of the star made manifest within its temple. One such temple to the star Sirius was the temple of Isis at Denderah. An ancient hieroglyphic inscription

from that temple informs us;²

She shines into her temple on New Year's Day, and she mingles her light with that of her father Ra on the horizon.

(Ra is an ancient Egyptian name for the sun.) The heliacal rising of Sirius was also important to other ancient peoples. Here is a dramatic description by the ancient Greek poet Aratus of Soli of the rising of Sirius³ (often known as the Dog Star as it is in the constellation Canis, or 'Dog'): The tip of his [the Dog's] terrible jaw is marked by a star that keenest of all blazes with a searing flame and him men call Sirius.

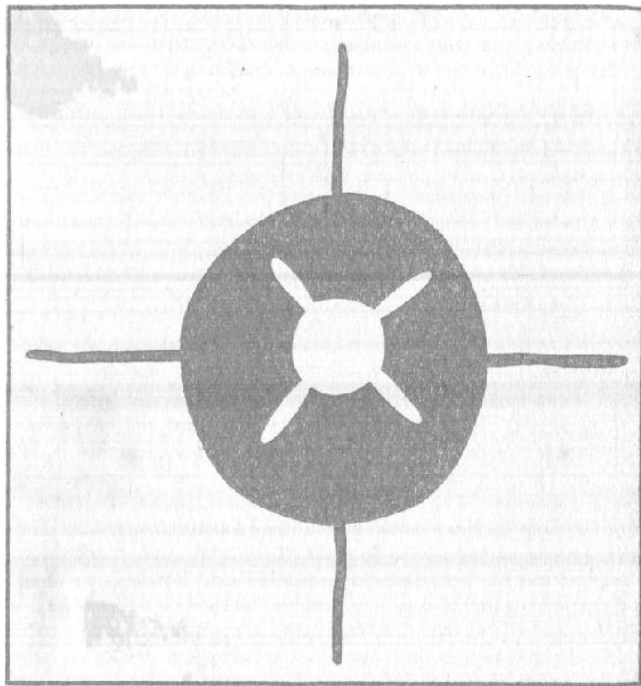


Figure ii. The heliacal rising of Sirius. Dogon drawing of Sirius and the sun joined together at this moment.

When he rises with the Sun [his heliacal rising], no longer do the trees deceive him by the feeble freshness of their leaves. For easily with his keen glance he

pierces their ranks, and to some he gives strength but of others he blights the bark utterly.

We see that this dramatic description of the rising of the star indicates an event which was certainly noticed by ancient peoples. Throughout Latin literature there are many references to 'the Dog Days' which followed the heliacal rising of Sirius in the summer. These hot, parched days were thought by that time to derive some of their ferocity and dryness from the 'searing' of Sirius. Traditions arose of Sirius being 'red' because it was in fact red at its heliacal rising, and I am told that Sirius is the only star bright enough to be red at the horizon. When making rhetorical allusion to the Dog Days, the Latins would often speak of Sirius being red at that time, which it was.

We tend to be unaware that stars rise and set at all. This is not entirely due to our living in cities ablaze with electric lights which reflect back at us from our fumes, smoke, and artificial haze. When I discussed the stars with a well-known naturalist, I was surprised to learn that even a man such as he, who has spent his entire lifetime observing wildlife and nature, was totally unaware of the movements of the stars. And he is no prisoner of smog-bound cities. He had no inkling, for instance, that the Little Bear could serve as a reliable night clock as it revolves in tight circles around the Pole Star (and acts as a celestial hour-hand at half speed - that is, it takes 24 hours rather than 12 for a single revolution).

I wondered what could be wrong. Our modern civilization does not ignore the stars only because most of us can no longer see them. There are definitely deeper reasons. For even if we leave the sulphurous vapours of our Gomorrahs to venture into a natural landscape, the stars do not enter into any of our back-to-nature schemes. They simply have no place in our outlook any more. We look at them, our heads flung back in awe and wonder that they can exist in such profusion. But that is as far as it goes, except for the poets. This is simply a 'gee whiz' reaction. The rise in interest in astrology today does not result in much actual star-gazing. And as for the space programme's impact on our view of the sky, many people will attentively follow the motions of a visible satellite against a backdrop of stars whose positions are absolutely meaningless to them. The ancient mythological figures sketched in the sky were taught us as children to be quaint 'shepherds' fantasies' unworthy of the attention of adult minds. We are

interested in the satellite because we made it, but the stars are alien and untouched by human hands - therefore vapid. To such a level has our technological mania, like a bacterial solution in which we have been stewed from birth, reduced us.

It is only the integral part of the landscape which can relate to the stars. Man has ceased to be that. He inhabits a world which is more and more his own fantasy. Farmers relate to the skies, as well as sailors, camel caravans, and aerial navigators. For theirs are all integral functions involving the fundamental principle - now all but forgotten - of orientation. But in an almost totally secular and artificial world, orientation is thought to be unnecessary. And the numbers of people in insane asylums or living at home doped on tranquillizers testifies to our aimless, drifting metaphysic. And to our having for—s.m.—5 89 gotten orientation either to seasons (except to turn on the air-conditioning if we sweat or the heating system if we shiver) or to direction (our one token acceptance of cosmic direction being the wearing of sun-glasses because the sun is 'over there').

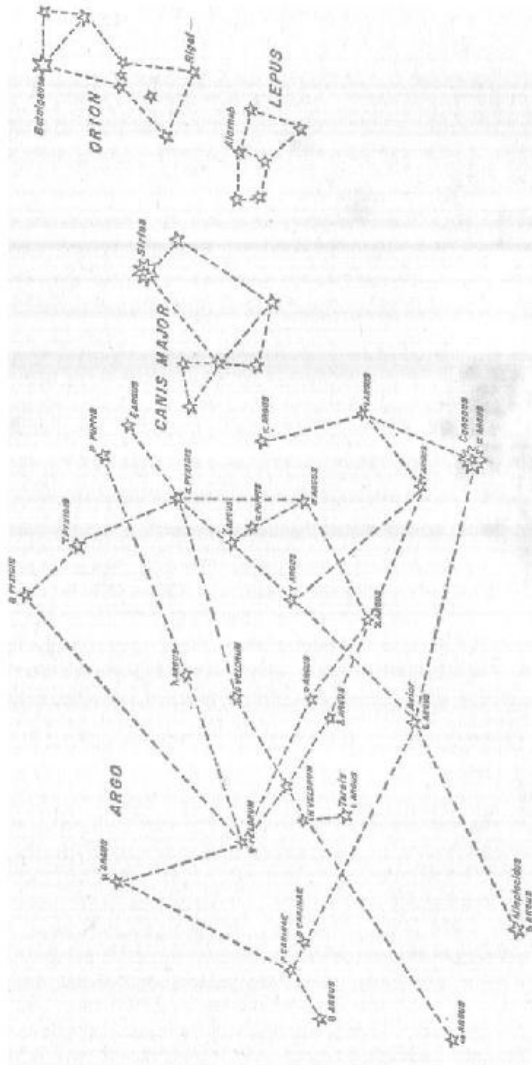
We have debased what was once the integral nature of life channelled by cosmic orientations - a wholeness - to the enervated tepidity of skin sensations and retinal discomfort. Our interior body clocks, known as circadian rhythms, continue to operate inside us, but find no contact with the outside world. They therefore become in grown and frustrated cycles which never interlock with our environment. We are causing ourselves to become meaningless body machines programmed to what looks, in its isolation, to be an arbitrary set of cycles. But by tearing ourselves from our context, like the still-beating heart ripped out of the body of an Aztec victim, we inevitably do violence to our psyches. I would call the new disease, with its side effect of 'alienation of the young', *dementia temporalis*.

When I tried to remedy my own total ignorance of this subject originally, I found it an extremely difficult process. I discovered that I was reading coherent explanatory matter which I 'understood' but did not comprehend. For comprehension consists of understanding from the inside as well as understanding from the outside. Things that do not really matter to us, or into which we do not imaginatively project our own consciousness, remain strange to

us; we understand them outside (like a man feeling the skin of an orange) but we have no inherent relation with the thing, and hence are ultimately divorced from its reality. This increasing isolation and alienation, a cultural blight of which there is almost universal complaint in the ‘civilized’ world, is yet another consequence of *dementia temporalis*. For how can you get inside anything in the end if you have ceased to be inside your own local universe with its cycles and natural events? To be outside nature is to be an outsider in all things.

With these observations in mind and a child’s fairytale to help guide us into the anteroom of the Egyptian psyche, let us prepare to take a

Figure 12. A star map showing the constellations Orion, Lepus (The Hare), Canis Major (the Great Dog, which contains the ‘Dog Star’ Sirius), and the huge constellation *Argo* (the Ship). The arrangement of the stars in *Argo* has been altered somewhat in this star map by the author and cartographer, which is not unusual, since *Argo* is so large and sprawling that it can rarely if ever be found on a single detailed star map. One can draw a ship almost anyway one wants for *Argo* and still be ‘within the rules’. Notice that Orion stands on the hare, which is portrayed in the Greek vase painting in Plate 14



plunge over a waterfall in the certainty that there is no chance of drowning. I have been over this particular waterfall before, and I assure you that the thrill is absolutely delicious if you just let yourself go. But there is no question about the fact that you will have to swim pretty hard. We're off... and immediately we are in the frothing rapids where names and basic guidelines must be established quickly. Professors Parker and Neugebauer, who are experts in such matters as these, tell us:⁴

The Egyptian calendar-year on which the diagonal star clocks (hitherto called 'diagonal calendars') were constructed is the well-known civil or 'wandering' year which consisted of twelve months of three 10-day weeks, divided into three seasons of four months each, followed by five epagomenal days, called by the

Egyptians ‘the days upon the year’. The total of 365 days did not vary and as a consequence the Egyptian year moved slowly forward in the natural year by, on the average, one day in four years. As we shall see later . . . this was a continuously vexing complication in keeping the star clocks adjusted.

The basis of these clocks was the risings of the stars (conventionally referred to as ‘decans’) at twelve ‘hour’ intervals through the night and in 10-day weeks through the year.

The main star or decan was Sirius. The four decans immediately before it in order comprise the constellation Orion. The last portion of Orion rises above the horizon one ‘hour’ before Sirius. It was for this reason that Orion took on significance in the Egyptian mythology and religion. The Egyptians were so concerned with Sirius, the star whose rising formed the basis of their entire calendar, that the decan immediately preceding it came to be looked on as Sirius’s ‘advance man’. Sirius itself was known to the Egyptians as *Sept*. Orion was known to the Egyptians as *Sah*.

Now that we have established a few names and facts, we have to consider the next fundamental point. The star Sirius was actually identified with the famous goddess Isis, the head of the Egyptian pantheon. This will be seen to be a major breakthrough in our search for understanding. It is one of the rare certainties in Egyptian astronomy that *Sot his* is identified with the goddess known to us as Isis but whose Egyptian name is *Ast*.

Professor Wallis Budge makes this interesting observation:⁶ ‘The throne or seat ... is the first sign in the name of As-t, who is the female counterpart of Osiris, and it is very probable that originally the same conception underlay both names.’ Osiris as the husband of Isis was identified with the constellation Orion.

Wallis Budge also said⁶:

From the hieroglyphic texts of all periods of the dynastic history of Egypt we

learn that the god of the dead, *par excellence*, was the god, whom the Egyptians called by a name which may be tentatively transcribed **As-Ar**, or Us-**Ar**, who is commonly known to us as 'Osiris'. The oldest and simplest form of the name is written by means of two hieroglyphs the first of which represents a 'throne' and the other an 'eye', but the exact meaning attached to the combination of the two pictures by those who first used them to express the name of the god, and the signification of the name in the minds of those who invented it cannot be said.

There is a great elaboration of what As-Ar does *not* mean, referring to the use of puns which particularly delighted Egyptian priests, *etc.* Two pages later he winds up by saying: 'The truth of the matter seems to be that the ancient Egyptians knew just as little about the original meaning of the name As-Ar as we do, and that they had no better means of obtaining information about it than we have.'

The Bozo tribe in Mali, cousins to the Dogon, describe Sirius B as 'the eye star', and here we see the Egyptians designating Osiris by an eye for reasons which are not clear. And Osiris is the 'companion' of the star Sirius. A coincidence? The Bozo also describe Sirius A as 'seated' - and a seat is the sign for Isis.

A little later Budge adds:.. in some passages (As-Ar or "Osiris") is referred to simply as "god", without the addition of any name. No other god of the Egyptians was ever mentioned or alluded to in this manner, and no other god at any time in Egypt ever occupied exactly the same exalted position in their minds, or was thought to possess his peculiar attributes.' He adds:⁷ 'The plaque of Hemaka proves that a centre of the Osiris cult existed at Abydos under the 1st Dynasty, but we are not justified in assuming that the god was first worshipped there, and ... it is difficult not to think that even under the 1st Dynasty shrines had been built in honour of Osiris at several places in Egypt.' Emery estimates the First Dynasty as commencing around 3200 B.C.

Thus we see the immense antiquity of the recognition of Ast and Asar (Isis and Osiris), going back well before the dynastic period in Egypt.

Wallis Budge says:⁸ ‘The symbol of Isis in the heavens was the star Sept (Sirius), which was greatly beloved because its appearance marked not only the beginning of a new year, but also announced the advance of the Inundation of the Nile, which betokened renewed wealth and prosperity of the country. As such Isis was regarded as the companion of Osiris, whose soul dwelt in the star Sah, *i.e.* Orion Wallis Budge also says:⁹

Notwithstanding the fact that **As**, or **Ast**, *i.e.* Isis, is one of the goddesses most frequently mentioned in the hieroglyphic texts, nothing is known with certainty about the attributes which were ascribed **to** her in the earliest times... . The name **Ast** has, like **Asar**, up to the present defied all explanation, and it is clear from the punning derivations to which the Egyptians themselves had recourse, that they knew no more about the meaning of her name than we do____The symbol of the name of Isis in Egyptian is a seat,

or throne, ... but we have no means of connecting it with the attributes of the goddess in such a way as to give a rational explanation of her name, and all the derivations hitherto proposed must be regarded as mere guesses. ... An examination of the texts of all periods proves that Isis always held in the minds of the Egyptians a position which was entirely different from that of every other goddess, and although it is certain that their views concerning her varied from time to time, and that certain aspects or phases of the goddess were worshipped more generally at one period than at another, it is correct to say that from the earliest to the latest dynasties Isis was the greatest goddess of Egypt. Long before the copies of the Pyramid Texts which we possess were written the attributes of Isis were well defined, and even when the priests of Heliopolis assigned her the position which she held in the cycle of their gods between B.C. 4000 and B.C. 3000 the duties which she was thought to perform in connexion with the dead were clearly defined, and were identical with those which belonged to her in the Graeco-Roman period.

I had begun to suspect that the sister-goddess of Isis, who is called Nephthys, represented a possible description of Sirius B, the dark companion star that described a circle around Sirius. (For we have just seen that Isis was identified with Sirius quite precisely by the Egyptians, a fact which no Egyptologist would ever dream of disputing.) But I must confess that I was not prepared to discover this following passage:¹⁰

On the subject of Anubis Plutarch reports (44561) some interesting beliefs. After referring to the view that Anubis was born of Nephthys, although Isis was his reputed mother, he goes on to say, 'By Anubis they understand the horizontal circle, which divides the invisible part of the world, which they call Nephthys, from the visible, to which they give the name of Isis; and as this circle equally touches upon the confines of both light and darkness, it may be looked upon as common to them both - and from this circumstance arose that resemblance, which they imagine between Anubis and the Dog, it being observed of this animal, that he is equally watchful as well by day as night.

This description could be taken to be one of the Sirius system. It clearly describes Isis (whom we know to have been identified with Sirius) as 'the confines of light' and 'the visible', and her sister Nephthys is described as being 'the confines of darkness' and 'the invisible', and common to both is the horizontal circle which divides them - the horizontal circle described, perhaps, by the orbit of the dark companion about the bright star? And here, too, is an explanation of the symbolism of the dog which has always been associated with Sirius, which has borne throughout the ages the name of the 'Dog Star'.

Anubis is variously represented as jackal-headed and dog-headed in Egyptian art. Wallis Budge adds;¹¹ 'Thus much, however, is certain, that in ancient times

the Egyptians paid the greatest reverence and honour to the Dog....’

Anubis was also variously represented as the son of Nephthys by Osiris and as being really identical with Osiris himself. A famous tale has him embalm the corpse of Osiris. Osiris was known as Anubis, though, at Oxyrhynchus and Cynopolis.¹²

A name similar to Anubis (which is really Anpu in Egyptian) and which is also associated with Isis-Sothis (Sirius), is Anukis, a goddess of Sothis who, along with the goddess Satis, sails in the same celestial boat with Sothis in the Egyptian paintings. There are thus the three goddesses together, possibly a description of Sirius A, Sirius B, and Sirius C, and emphasizing that the Sirius system is really thought to be a three-star system. Just to underline the point, Neugebauer specifically states;¹³ ‘The goddess Satis, who like her companion Anukis is hardly to be taken as a separate constellation but rather as an associate of Sothis.’

The goddess Anukis holds two jars from which she pours water, possibly indicating two watery planets around her star? All the references to the Sothic heavens are to a watery, reed-growing paradise. Many archaeologists have surmised that this refers to some specifically Egyptian locale. But no one is sure. What is known is that heaven is almost invariably associated with the Sirius system and is described as being prolific of vegetation and watery.

In Plutarch’s famous and lengthy treatise (from his immense work the *Moralia*, which is even longer than his *Lives*), ‘Isis and Osiris’ (356) we read; ‘... Isis was born in the regions that are ever moist.’ In the Loeb Library edition of this, the translator F. C. Babbitt adds a footnote at this point saying; ‘The meaning is doubtful.. ..’ In other words, no one is really sure what is meant by all these references to Isis-Sothis and the ‘moist regions’, which are supposed by most scholars quite sensibly to be projections of local Egyptian conditions around the Nile into an ideal celestial region. But most scholars admit that this is mere conjecture. The ‘moist regions’ could just as well be an attempt to describe some watery planets.

It is worth pointing out that in the event of planets in the Sirius system being watery, we must seriously consider the possibility of intelligent beings from there being amphibious. This ties in with the legend of Oannes which I mentioned in Part One. He was the amphibious being mentioned by the astronomer Carl Sagan from the Sumerian tradition, and was the bringer of civilization to man. In other words, beings of this type would be a bit like mermaids and mermen - and might in some way resemble our intelligent friends the dolphins. I discuss this subject further in Part Three of this book.

Let us now turn our attention to a remarkable book, *Star Names, Their Lore and Meaning* by Richard Hinckley Allen. In this book, under a discussion of the constellation Canis Major (The Dog), which contains Sirius,¹⁴ on p. 130, is a description of the star of the constellation represented by the Greek letter δ (delta): It is the 'modern Wezen, from (the Arabic) A1 Wazn, Weight, "as the star seems to rise with difficulty from the horizon," but Ideler calls this an astonishing star-name.'

Yes, concerning what we know, it is astonishing!

Ideler might well comment that A1 Wazn is 'an astonishing star-name'. To call a star in the same constellation as Sirius "too heavy to rise over the horizon with ease' looks suspiciously like an attempt to describe a 'heavy star' such as Sirius B.

Could this reference to a 'heavy star' be a reference to Sirius B by people who have inherited a slightly garbled version of the tradition of its being a super-dense star invisible to the unaided eye - resulting in their seizing on one of Sirius's apparent companions (as seen from the Earth) and giving it a description properly applying to its actual companion? The Arabs do not mention '480 ass loads' to describe its weight in the quaint fashion of the Dogon, but the substance of the idea seems to be present. It is well known that ancient Arabic astronomical lore derives from Egypt and is found in Arabic traditions in a degenerate form. Obviously the search must now be on for this concept of a super-heavy star in Egyptian traditions! I had always suspected that this most secret tradition of the Dogon reached them from Egypt, just as the lore of stars

reached the Arabs from Egypt. It will not be easy for us to discover, as it must have been an extremely esoteric and secret teaching of the Egyptians, just as it was the most secret teaching of the Dogon.

A further use of the name Wazn is its loose application to the star Canopus in the constellation Argo.¹⁵ Allen, in describing the Argo, quotes the ancient Greek poet Aratos, in a passage showing us something of the relation Argo bears to Canis Major, the Great Dog: Stemforward Argo by the Great Dog's tail Is drawn ...

Argo is the constellation representing both Jason's ship with its fifty Argonauts and Noah's ark.

Jason's *Argo* 'carried Danaos with his fifty daughters from Egypt to Rhodes', as Allen puts it. He adds: 'The Egyptian story said that it was the ark that bore Isis and Osiris over the deluge; while the Hindus thought that it performed the same office for their equivalent Isi and Iswara.'

As to the celestial *Argo*—boat (or ark); we have previously encountered this Egyptian idea of the celestial boats in which their gods sailed through the waters of the heavens. The three Sirius-goddesses: Sothis, Anukis, and Satis, were all in the same boat. So it is interesting to see that *Argo* was a boat connected with Isis and Osiris, for a concept which seems to be peculiarly stubborn in attaching itself to *Argo* is the number fifty. It is my suspicion that this is a remnant of the concept of Sirius B taking fifty years to complete an orbit around Sirius A. This suggestion is not as far-fetched as it may seem at first sight. Indeed, the reader will discover as he proceeds that the suggestion will become more and more obvious. We must realize that in Egyptian terms the orbit of Sirius B around Sirius A could have been expressed in terms of a celestial boat. Now since *Argo* is the boat of Isis and Osiris, what better way to express the fifty-year orbit than by giving the boat fifty oarsmen? And that is what *Argo* has - in the tradition there are fifty rowers, or Argonauts.

In order to fortify my argument I shall quote Allen's precise way of describing this:¹⁶ 'Mythology insisted that it was built by Glaucus, or by Argos, for Jason, leader of the fifty Argonauts, *whose number equalled that of the oars of the ship . . .*' In other words, it is not the men but the *number of oars* laid out in line round the ship that is important. A ship (an orbit) with fifty oars (fifty 'markers' or yearly stages)! And just so that we don't miss the importance of the figure fifty, we are told there were fifty daughters of Danaus transported from Egypt on the *Argo*! (Readers who wonder what other connection there may be between the *Argo* of the Greeks and ancient Egypt must be patient.) *Argo* is therefore totally involved in the picture, as we now see. There are many further ramifications of this, not only of *Argo*, but of the number fifty.

But before moving on to what that entails, it is worth giving an illustration of the concept of 'the rower' in the celestial barque from an ancient Egyptian coffin text 'The Field of Paradise'.¹ It is quite likely that from concepts such as these the idea of a rower and his oar developed and became incorporated in the *Argo* myth and came to be symbolic: '... in the place where Re (the Sun) sails with rowing. I am the keeper of the halyard in the boat of the god; I am the oarsman who does not weary in the barque of Re.' (Re is another form of the more familiar Ra.) The first person in this text refers to the deceased Pharaoh. This is one of the examples of the common Egyptian conception that when a Pharaoh died he became a celestial rower. It should be obvious, then, how the concept of 'fifty rowers' by fifty positions, or oars, came to be important as symbols. It harks back to this Egyptian motif.

Now we must turn to the Sumerian civilization (which later developed into the Babylonian civilization). We shall be back in Egypt soon enough, with more *Argo* material. But we must go east. Sumer-Akkad was roughly contemporaneous with ancient Egypt, and the lands are known to have been in contact. In a major source we read¹⁸ of the Sumerian word Magan: 'The land Magan is usually identified either with Arabia or with Egypt.'

But whatever contact the two civilizations may have had, we must first

investigate the Sumerian religion and mythology. For this we rely primarily on the excellent work of Samuel Noah Kramer of the University of Pennsylvania.

The Sumerian heaven-god is called Anu. (In Sanskrit *anupa* means ‘a watery county’.) I had a considerable shock when I discovered that Alexander Heidel says in *The Babylonian Genesis*: ‘... just as the departed spirits of Enlil and Anu were pictured as the wild ass and the jackal, respectively’.¹⁹ Anu is represented by the jackal. Well, of course, the jackal is the symbol (interchangeable with the dog) of the Egyptian Anpu (Anubis)!

I shall explain later why I consider Anu to be related to the Sirius question, apart from this obvious parallel. At the moment I shall deal with further related parallels which I consider amazing. Anu is the king of some attendant deities called the Anunnaki. We shall shortly see why they are so involved in the Sirius question. But note the recurrence in Sumer of ‘Anu’ in both Anu and the Anunnaki, and in Egypt with both Anpu (Anubis) and Anukis. In all these cases Sirius is involved. Even the jackal or dog is common as a symbol to the ‘Anu’ in both countries. There are other parallels, but we shall come to them in due course.

In Sumerian the word *an* means ‘heaven’ and Anu is the god of heaven.

Wallis Budge says²⁰ that the Egyptian god Nu was often identified with Nut, which is ‘heaven’. Significantly, he expressly states:²¹

It is surprising therefore to find so much similarity existing between the primeval gods of Sumer and those of Egypt, especially as the resemblance cannot be the result of borrowing. It is out of the question to assume that Ashurbanipal’s editors borrowed the system from Egypt, or that the literary men of the time of Seti I borrowed their ideas from the *literati* of Babylonia or Assyria, and we are therefore driven to the conclusion that both the Sumerians and the early Egyptians derived their primeval gods from some common but exceedingly ancient source. The similarity between the two companies of gods seems to be too close to be accidental... it is certain that the company of primeval gods ...

was quite different from ... those which formed in Babylonia and Assyria when these countries were inhabited by Semitic populations.

I had come to all these conclusions myself before seeing this passage by Wallis Budge.

But to return to Anu. Osiris is sometimes known as An.²² In a hymn to Osiris²³ he is called the ‘god An of millions of years .. .’ and also ‘An in An-tes, Great One, Heru-khuti, thou stridest over heaven with long strides’. Therefore this designation as An is specifically connected with heaven and the long strides mean heavenly motion.

In considering An and Anu we must look again at Anubis. But as we do so we shall take a glance at the Sanskrit. Recall that Anubis in Plutarch’s account seemed to refer specifically to the *orbit* of Sirius B. In Sanskrit the word *anda* means ‘ellipse’, and the word *anu* means ‘minute, atomic, “the subtle one”, an atom of matter’ and *animan* means ‘minuteness, atomic nature, the smallest particle, the superhuman power of becoming as small as an atom’. The first word could describe an orbit. Since Kepler, we have known that our planets move in elliptical orbits rather than circular ones, and the orbit of Sirius B is that of an ellipse. As for the next two forms *anu* and *animan*, they seem to have meanings perilously peripheral to an account of that level of matter (the atomic) where the nature of Sirius B is manifested. We shall see much later in the book that other similarities exist between certain Sanskrit terms relevant to the Sirius question and like terms in Egypt and the Near East. But we shall leave those philological matters until later, when they will be shown to have considerable importance.

Back to Anubis. Wallis Budge says of him;²⁴ ‘His worship is very ancient, and there is no doubt that even in the earliest times his cult was general in Egypt; it is probable that it is older than that of Osiris.’ Also he points out here, as elsewhere, that the face of the deceased human becomes identified with Anubis, and it is just the head of Anubis which is symbolically represented by the jackal or dog. I have already pointed out that he is described as the circle or orbit separating the dark Nephthys from the light Isis or Sirius. In other words, I take

Anubis to represent the orbit of Sirius B around Sirius A. We also find him described as ‘time’,²⁶ a particularly intelligent way of looking at an orbit as progressive and sequential in time. ‘Time the devourer’, a motif common to us all, is no stranger to the Egyptians. It should not surprise us that Anubis is also represented as a devourer! More specifically, he is accused of devouring the Apis bull. The Apis bull is the animal into which the dead Osiris was sewn and transported, according to a late legend which is widely known. But more basically, the ‘Apis Bull’ (the deity known under the Ptolemies as Serapis) is Asar-Hapi. It is Osiris himself! In *The Gods of the Egyptians*, we read ‘Apis is called “the life of Osiris, the lord of heaven”’ and ‘Apis was, in fact, believed to be animated by the soul of Osiris, and to be Osiris incarnate’.²⁶ So, consequently, when Anubis devoured Apis, he was eating the husband of Isis! It is very colourfully represented in these dramatic mythological terms, but the meaning is clear. We read later:²⁷

‘Others again are of the opinion that by Anubis is meant Time, and that his denomination of *Kuon* [the Greek word for ‘dog’] does not so much allude to any likeness which he has to the dog, though this be the general rendering of the word, as to that other significance of the term taken from *breeding*; because Time begets all things out of itself, bearing them within itself, as it were in a womb. But this is one of those secret doctrines which are more fully made known to those who are initiated into the worship of Anubis.’

Exactly. A secret doctrine! What one would give for a fuller account! This is the trouble with most of our sources; they give away little except by inference. Secret doctrines are not scribbled down too frequently and left for posterity. The most secret doctrine of the Dogon was only revealed with great reluctance after many, many years, and following upon a conference by the initiates. The

Egyptians were no fools, and we can hardly expect them to have left papyri or texts specifically revealing in so many words what they were not supposed to reveal. We can only try to piece together clues. But we will see our clues eventually turn into a veritable avalanche.

The last passage from Wallis Budge was a quotation by him from Plutarch's 'Isis and Osiris'. Many Egyptologists have remarked on the irony that we have nowhere in Egyptian sources a full, coherent account of Isis and Osiris - not even in all the sources put together.¹ And we are forced to rely on Plutarch, who did preserve a long account which he wrote in his native Greek. Plutarch was a priest himself, at Delphi. He had a talent for befriending priests and priestesses. One of his best friends and colleagues was the priestess Clea of the oracle at Delphi. His treatise 'Isis and Osiris' is dedicated to Clea and addressed to her. It begins with these words: 'All good things, my dear Qea, sensible men must ask from the gods; and especially do we pray that from those mighty gods we may, in our quest, gain a knowledge of themselves, so far as such a thing is attainable by men.' This gives some indication of what Plutarch was like as a man.

The Introduction to the Loeb edition of Isis and Osiris by F. C. Babbitt says: '[Plutarch] once visited Egypt, but how long he stayed and how much he learned we have no means of knowing. It is most likely that his treatise represents the knowledge current in his day, derived, no doubt, from two sources: books and priests.' It is certain that Plutarch, who was so important at Delphi, would have had ample introductions to leading priests of Egypt. This sort of thing was standard practice - as with the study of Egyptian religion and astronomy undertaken centuries earlier by the Greek scholar Eudoxus (colleague of Plato and Aristotle), who was given a letter of introduction to the last of the native Pharaohs, Nectanebo, by the Spartan general Agesilaus, and who in turn sent him off to associate with his priests. So, no doubt Plutarch did with the Egyptian priests what Griaule and Dieterlen did with the Dogon - drew some secret traditions out of them. It is thus not surprising that Plutarch's essay is more respected by Egyptologists than by classicists.

Plutarch says: 'Some are of the opinion that Anubis is Cronos.'²³ Cronos in Latin is Saturn, the former chief god prior to Zeus (Jupiter). The Sumerian god Anu is quite similar to the Greek Cronos because both Cronos and Anu were

‘old’ gods who were displaced by younger blood - by Zeus and Enlil respectively. Thus another possible link between Anu and Anubis.

A further piece of information from Plutarch about Anubis is:²⁹ ‘And when the child (Anubis, child of Nephthys by Osiris) had been found, after great toil and trouble, with the help of dogs which led Isis to it, it was brought up and became her guardian and attendant, receiving the name Anubis, and it is said to protect the gods just as dogs protect men.’

If Anubis is conceived of as an orbit around Sirius, then he would indeed be attendant upon Isis! He would go round and round her like a guard dog.

Plutarch has an interesting tale: ‘Moreover, Eudoxus says that the Egyptians have a mythical tradition in regard to Zeus that, because his legs were grown together, he was not able to walk..’,³⁰ This sounds very like the amphibious Oannes of the Sumerians who had a tail for swimming instead of legs for walking.

Plutarch provides us with an important and crucial clue linking Isis with the *Argo* and the Argonauts and demonstrating a probable derivation of an idea that has puzzled classicists enormously (and later on we shall see the links between Isis and the *Argo* considerably elaborated): ‘Like these also are the Egyptian beliefs; for they oftentimes call Isis by the name of Athena, expressive of some such idea as this, “I came of myself,” which is indicative of self-impelled motion.’³¹

It must be remembered that the Greek goddess Athena, the goddess of the mind and of wisdom, was reputed to have sprung full-fledged from the brow of Zeus. She was not born. She came of herself. However, the quotation must be continued to make the point:

Typhon, as has been said, is named Seth and Bebon and Smu, and these names would indicate some forcible and preventive check or opposition or reversal.

Moreover, they call the lodestone the bone of Horus, and iron the bone of Typhon, as Manetho records. For, as the iron oftentimes acts as if it were being attracted and drawn toward the stone and oftentimes is rejected and repelled in the opposite direction, in the same way the salutary and good and rational movement of the world at one time, by persuasion, attracts and draws towards itself and renders more gentle that harsh and Typhonian movement, and then again it gathers itself together and reverses it and plunges it into difficulties.

The identification of Isis with Athena here in connection with lodestones and ‘self-impelled motion’ brings to mind the placing by Athena of a cybernetic (‘steering’) oak timber from the holy sanctuary of Dodona (supposedly founded by Deukalion, the Greek Noah, after his ark landed) in the keel of the *Argo*. H. W. Parke in his books *Greek Oracles* and *The Oracles of Zeus* refers to this: ‘Athena when the *Argo* was built took a timber from the oak tree of Dodona (the oracular centre of Zeus) and fitted it into the keel. This had the result that the *Argo* itself could speak and guide or warn the Argonauts at critical moments, as it actually is represented as doing in our extant epics on the subject. The original epic is lost, but there is no reason to doubt that this miraculous feature went back to it, and, if so, was at least as old as the *Odyssey* in which the *Argo* and its story are mentioned.’ Parke then emphasizes most strongly that it is the timber itself that acts as guide. It is self-sufficient and not merely an oracular medium. Thus we see that the *Argo* had a unique capacity for ‘self-impelled motion’ which was built into it by Athena (whom Plutarch identifies with Isis).³²

But we shall leave the fifty Argonauts and their magical ship to turn our attention to what appears to be a rather precise Egyptian description of the Sirius system preserved in an unusual source. The source is G. R. S. Mead (who was a friend of the poet Yeats and is mentioned by his nickname ‘Old Crore’ in Ezra Pound’s *Cantos*), whose three-volume *Thrice Greatest Hermes*³³ contains a translation of, with extensive prolegomena and notes to, the obscure and generally ignored ancient ‘Trismegistic literature’ of the Hermetic tradition.

These writings are largely scorned by classical scholars who consider them Neoplatonic forgeries. Of course, ever since the wild Neoplatonic boom in the Italian Renaissance period when Marsilio Ficino translated and thereby preserved for posterity (one must grant the Medicis the credit for finding and purchasing the manuscripts!) such Neoplatonists as Iamblichus, as well as these Trismegistic writings, the Neoplatonists have been in the doghouse. The Loeb Classical Library still has not published all of Plotinus even now.

But most readers will not be familiar either with the term ‘trismegistic’ or with the Neoplatonists. So I had better explain. The Neoplatonists are Greek philosophers who lived long enough after Plato to have lost the name of Platonists as far as modern scholars are concerned (though they were intellectual disciples of Plato and considered themselves Platonists). Modern scholars have added the prefix ‘Neo-’ to ‘Platonist’ for their own convenience, in order to distinguish them from their earlier predecessors, those Platonists who lived within 150 years of Plato himself. The Platonic Academy existed for over nine centuries at Athens. In actuality, scholars talk about ‘Middle Platonists’, ‘Syrian Platonists’, ‘Christian Platonists’, ‘Alexandrian Platonists’, and so on. I suggest the reader look at my Appendix I, which will tell him a lot about the Neoplatonists and their connection with the Sirius mystery, and which deals primarily with Proclus.

G. R. S. Mead, at the beginning of his work *Thrice Greatest Hermes*, explains fully what ‘the Trismegistic Literature’ is. He calls it ‘Trismegistic’ instead of by its earlier designation ‘Hermetic’ (from the name of the Greek god Hermes) in order to distinguish it from other less interesting writings such as the Egyptian Hermes prayers and also the ‘Hermetic Alchemical Literature’. The Trismegistic writings are now fragmentary and consist of a large amount of exceedingly strange sermons, dialogues, excerpts by Stobaeus and the Fathers of the Church from lost writings, *etc.* I hesitate to give a brief summary of them and suggest that the interested reader actually look into this subject himself. The writings contain some ‘mystical’ elements and certainly some sublime elements. Old Cosimo de Medici was told by Ficino that he could translate for him either the Hermetic Literature or the dialogues of Plato, but not both at once. Cosimo knew he was dying. He said something like: ‘If only I could read the Books of Hermes, I would die happy. Plato would be nice but not as important. Do the

Hermes, Ficino.’ And Ficino did.

As I explain fully in Appendix I, the Neoplatonists are so thoroughly despised through the bias of the moment, however one cares to define that bias, that the Trismegistic literature suffers with Neoplatonism under the onus of being considered too far removed from reality and logic and being inclined towards the mystical. This does not fit well with the hard rationalism of an age still bound by the (albeit decaying) fetters of nineteenth-century scientific deterministic prejudice. The sublime irony is, of course, that proven and authentic Egyptian texts are obviously mystical, but that is considered all right. However, as long as there is a belief that the Trismegistic literature is Neoplatonic it will be despised because it is mystical.

The Trismegistic literature may be Neoplatonic. But that does not make what it has to say about Egyptian religion any less valid *per se* than the ‘Isis and Osiris’ by the Greek Plutarch, who was only slightly earlier in time than the Neoplatonist Greeks. It is time for scholars to pay some attention to this sadly neglected material. Much of the Trismegistic literature probably goes back to genuine sources or compilations such as Manetho’s lost *Sothis*. Or the literature may be quite ancient, in which case some of it cannot, in its present form, be earlier than the Ptolemaic period when the Zodiac as we know it was introduced into Egypt by the Greeks who in turn had it from Babylon. (I cannot here discuss the matter of earlier forms of zodiac, such as at Denderah.) Mead quotes an Egyptian magic papyrus, this being an uncontested Egyptian document which he compares to a passage in the Trismegistic literature: ‘I invoke thee, Lady Isis, with whom the Good Daimon doth unite, He who is Lord in the perfect black.’³⁴

We know that Isis is identified with Sirius A, and here we may have a description of her star-companion ‘who is Lord in the perfect black’, namely the invisible companion with whom she is united, Sirius B.

Mead, of course, had no inkling of the Sirius question. But he cited this magic papyrus in order to shed comparative light on some extraordinary passages in a Trismegistic treatise he translated which has the title ‘The Virgin of the World’. In his comments on the magic papyrus Mead says: ‘It is natural to make the

Agathodaimon (“the Good Daimon”) of the Papyrus refer to Osiris; for indeed it is one of his most frequent designations. Moreover, it is precisely Osiris who is pre-eminently connected with the so-called “underworld”, the unseen world, the “mysterious dark”. He is lord there ... and indeed one of the ancient mystery-sayings was precisely, “Osiris is a dark God.”

‘The Virgin of the World’ is an extraordinary Trismegistic treatise in the form of a dialogue between the hierophant (high priest) as spokesman for Isis and the neophyte who represents Horus. Thus the priest instructing the initiate is portrayed as Isis instructing her son Horus.

The treatise begins by claiming it is ‘her holiest discourse’ which ‘so speaking Isis doth pour forth’. There is, throughout, a strong emphasis on the hierarchical principle of lower and higher beings in the universe - that earthly mortals are presided over at intervals by other, higher, beings who interfere in Earth’s affairs when things here become hopeless, *etc.* Isis says in the treatise: ‘It needs must, therefore; be the less should give place to the greater mysteries.’ What she is to disclose to Horus is a *great* mystery. Mead describes it as the mystery practised by the arch-hierophant. It was the degree (here ‘degree’ is in the sense of ‘degree’ in the Masonic ‘mysteries’, which are hopelessly garbled and watered-down versions of genuine mysteries of earlier times) ‘called the “Dark Mystery” or “Black Rite”’. It was a rite performed only for those who were judged worthy of it after long probation in lower degrees, something of a far more sacred character, apparently, than the instruction in the mysteries enacted in the light.’

Mead adds: ‘I would suggest, therefore, that we have here a reference to the most esoteric institution of the Isiac tradition . . Isiac meaning of course ‘Isis-tradition’, and not to be confused with the Book of Isaiah in the Bible (so that perhaps it is best for us not to use the word-form ‘Isiac’).

It is in attempting to explain the mysterious ‘Black Rite’ of Isis at the highest degree of the Egyptian mysteries that Mead cited the magic papyrus which I have already quoted. He explains the ‘Black Rite’ as being connected with Osiris being a ‘dark god’ who is ‘Lord of the perfect black’ which is ‘the unseen world, the mysterious black’.

This treatise 'The Virgin of the World' describes a personage called Hermes who seems to represent a race of beings who taught earthly mankind the arts of civilization after which: 'And thus, with charge unto his kinsmen of the Gods to keep sure watch, he mounted to the Stars'.

According to this treatise mankind have been a troublesome lot requiring scrutiny and, at rare intervals of crisis, intervention.

After Hermes left Earth to return to the stars there was or were in Egypt someone or some people designated as 'Tat' (Thoth) who were initiates into the celestial mysteries. I take this to refer to the Egyptian priests. However, one of the most significant passages in the treatise follows immediately upon this statement, and indicates to me that this treatise must have some genuine Egyptian source, for no late Greek should have been capable of incorporating this. But in order to recognize this one must know about the extraordinary Imhotep, a brilliant genius, philosopher, doctor, and Prime Minister (to use our terms) during the Third Dynasty in Egypt circa 2600 B.C. under King Zoser, whose tomb and temple he constructed and designed himself. (This is the famous step-pyramid at Sakkara, the ^{first} pyramid ever built and the world's earliest stone building according to some.) Imhotep was over the centuries gradually transformed into a god and 'a son of Ptah'. One reason why the process of his deification may have been retarded for some thousands of years is that writings by him survived, rather like the survival of the *Gathas* by Zarathustra (Zoroaster), making it impossible to claim that a man who left writings could in fact have been a god. Just like Mohammed and Zoroaster, Imhotep remained a sort of 'prophet' through his surviving writings.

For the significant passage, now, here is the entire paragraph: 'To him (Hermes) succeeded Tat, who was at once his son and heir unto these knowledges [this almost certainly implies a priesthood]; and not long afterwards Asclepius-Imuth, according to the will of Ptah who is Hephaestus, and all the rest who were to make enquiry of the faithful certitude of heavenly contemplation, as Foreknowledge (or Providence) willed, Foreknowledge queen of all.'

Now this is a really striking passage. We have the mysterious ‘Hermes’ succeeded by an Egyptian priesthood of Thoth. Then ‘not long afterwards’ we have someone called Asclepius-Imuth ‘according to the will of Ptah’. This is Imhotep! Ptah, known to the Greeks as Hephaestus, was considered the father of Imhotep in late Egyptian times. In fact, it is interesting that this text avoids the late form ‘son of Ptah’ to describe Imhotep. Imhotep was known to the Greeks and provided the basis for their god Asclepius (the Greek god of medicine, corresponding to Imhotep’s late form as Egyptian god of medicine). Imhotep is also spelled Imouthes, Imothes, Imutep, *etc.* Hence the form in this treatise ‘Asclepius-Imuth’.

There is absolutely no question that Imhotep is being referred to here. And in the light of that, certain other statements in this passage become quite interesting.

It has already been mentioned that in a treatise like ‘The Virgin of the World’, where gods’ names are thrown round like birdseed, the authors were exceedingly restrained to have avoided labelling Asclepius-Imhotep as ‘a son of Ptah-Hephaestus’. This may, indeed, point to a genuine early source from the time before that when the Egyptians ceased to regard Imhotep as a mortal. Hurry says:³⁵

For many years Egyptologists have been puzzled to explain why Imhotep, who lived in the days of King Zoser, *ca.* 2900 B.C., was not ranked among the full gods of Egypt until the Persian period, dating from 525 B.C. The apotheosis of a man, however distinguished, so many centuries after his life on earth seems mysterious. The explanation appears to be that first suggested by Erman, *viz.* that Imhotep, at any rate during a large part of the interval was regarded as a sort of hero or demigod and received semi-divine worship. Erman suggested that this rank of demigod was bestowed on him at the time of the New Kingdom, *i.e.* about 1580 B.C., but more recent evidence seems to indicate that this demigod

stage was reached at a much earlier period.

Here a bit of chronology helps. 'The Virgin of the World' correctly described Imhotep as 'not long afterwards', following upon the creation of the Egyptian priesthood, presumably in the First Dynasty after Menes, in the form in which it would be known after the unification of Egypt. Imhotep lived in the Third Dynasty, at the beginning of the Old Kingdom. I. E. S. Edwards³⁶ estimates this as commencing about 2686 B.C. He puts the start of the First Dynasty about 3100 B.C. Imhotep is thus literally 'not long afterwards'. Whoever wrote 'The Virgin of the World' knew his Egyptian chronology and also did not call Imhotep 'son of Ptah'.

There is another point. Looking at this statement from 'The Virgin of the World': '... and all the rest (i.e. after Imhotep) who were to make enquiry of the faithful certitude of heavenly contemplation ...', we find that we have a reference to successors of Imhotep who 'enquired' into the riddles of the universe and also a description of Imhotep's own activities as an 'enquirer'. This also is accurate and reflects considerable knowledge of the subject. For Imhotep is often described as the first genuine philosopher known by name. And on p. 30 of his book, Hurry refers to apparent successors mentioned in an Oxyrhyncus papyrus (in Greek, edited by Grenfell and Hunt) which relates that 'Imhotep was worshipped as early as the IVth Dynasty, and his temple was resorted to by sick and afflicted persons'. Hurry further says: 'The other persons are Horus son of Hermes, and Kaleoibis son of Apollo (Imhotep being a son of Ptah); it is not known who these were.' Could they have been successors of Imhotep at 'enquiring'? It seems likely that we shall be learning more of these people as excavations in Egypt proceed. In 1971-2 there came to light at Sakkara a remarkable group of texts written by a man named Hor (from Horus), describing his life at an Egyptian temple in the Ptolemaic period, recounting his dreams and his political encounters. These texts should have been published by 1976 by the Egypt Exploration Society of which I am a member.

Hurry refers to the Trismegistic (Hermetic) literature as follows: 'If the references to Imhotep in Hermetic literature can be trusted, he was also interested in astronomy and astrology, although no special observations are

associated with his name. Sethe gives various references to that literature, showing that Imhotep was reputed to have been associated with the god Thoth (Hermes) in astronomical observations.’³⁷ Obviously Imhotep, as chief priest under King Zoser (for he held that office as well), was associated with Thoth (Tat) in the form of the priesthood previously mentioned who had the ‘Dark Rite’ as their highest mystery. Here is actual confirmation, then, that it was astronomical matters with which they dealt. In other words, my astronomical interpretation receives some confirmation from this source as well.

Inscriptions in a temple at Edfu built by Ptolemy III Euergetes I (237 B.c.) describe Imhotep as ‘the great priest Imhotep the son of Ptah, who speaks or lectures’. Hurry says ‘Imhotep enjoyed the reputation of being “one of the greatest of Egyptian sages”’;³⁸ his fame for wisdom made so deep an impression on his countrymen that it endured as a national tradition for many centuries.

‘As regards his literary activities, he is said to have produced works on medicine and architecture, as well as on more general subjects, and some of his works were extant at the dawn of the Christian era.... his eminence as a man of letters led him to be recognized as the “patron of scribes.”’

In other words, he was the first great philosopher. And he obviously ‘spoke and lectured’ in his lifetime. Perhaps he was the first classical Greek in prototype. We also have something to look forward to - his tomb has yet to be discovered. It is thought to be at Sakkara, and the late Professor Emery more than once thought he had come close to discovering it in his excavations there, which are now being carried on by Professor Smith, who is a man with a strange enough aura about him to convince anyone that he is capable of making a discovery which would be the most important in archaeological history and beside which the minor and later tomb of a boy Pharaoh named Tutankhamen would entirely pale by comparison. But perhaps the most interesting thing about the possible forthcoming discovery of Imhotep’s tomb is that it will almost certainly be full of books. Would a man like Imhotep be buried without them?

Bearing these books in mind (and I am sure they are there waiting underground like a time bomb for us), it is interesting to read this passage in ‘The Virgin of

the World' following shortly upon that previously quoted:

The sacred symbols of the cosmic elements were hid away hard by the secrets of Osiris. Hermes, ere he returned to Heaven, invoked a spell on them, and spake these words:... 'O holy books, who have been made by my immortal hands, by incorruption's magic spells ... (at this point there is a lacuna as the text is hopeless)... free from decay throughout eternity remain and incorrupt from time I Become unseeable, unfindable, for every one whose foot shall tread the plains of this land, until old Heaven doth bring forth meet instruments for you, whom the Creator shall call souls.' s.m.—6 109

Thus spake he; and, laying spells on them by means of his own works, he shut them safe away in their own zones. And long enough the time has been since they were hid away.

In the treatise the highest objective of ignorant men searching for the truth is described as: '(Men) will seek out... the inner nature of the holy spaces which no foot may tread, and will chase after them into the height, desiring to observe the nature of the motion of the Heaven.

'These are as yet moderate things. For nothing more remains than Earth's remotest realms; nay, in their daring they will track out Night, the farthest Night of all.'

We 'will chase out into the height' of space to 'observe the nature of the motions of the Heavens', says this old (indeterminately old) treatise. How correct it was. We have now landed on the moon, which is 'chasing out into the height' with a vengeance. And we are indeed 'observing the nature of the motion of the Heavens'. And the treatise is also right in saying that 'these are yet moderate things'. For, as everyone knows, the people in the space programme feel as if they have only just begun. Man will only pause properly again when he has made the entire solar system his familiar and his own. Then we shall be

faced with the limitations of our solar system and the barrier that separates it from the stars. What then? Yes, what we have done to date certainly deserves the description of 'yet moderate things'. Vasco da Gama may have congratulated himself on his brilliant navigational accomplishments, but as we can clearly see in his case, a beginning is only a beginning. It is 'yet moderate things'.

According to the treatise, after these moderate things we shall 'in our daring' even learn the greatest secret... we shall discover 'Night'. And the meaning of the 'Dark Rite' will become clear. And as this rite and this mystery concern Isis and the star Sirius and by the context of this prophecy clearly concerns the heavens, can we be accused of sensationalism in making the suggestion that nothing would shake up the human race more than having the discovery of intelligent life elsewhere in the universe proven for the first time? And what if the dark companion of Sirius really does hold the answer to this mystery? What if the nearest centre of civilization really is based at the Sirius system and keeps a watchful eye on us from time to time? What if this is proven by our detecting by our radio telescopes actual traces of local radio communications echoing down those nine light years of space in the vast spreading ripple of disintegrating signals that any culture remotely near to us in development would be bound to dribble forth into the surrounding universe? What if this happens? It will be like the sky falling in, won't it?

Notes

1. *Le Renard pale*, p. 325. Figure 109 in that book shows it, drawn as 'the meeting of Sirius with the Sun'.

2. Mariette, *Denderah*, Vol. I, p. 206.

3. Aratus, *Phaenomena* 331-6. English translation in Loeb Library series, in volume with Callimachus and Lycophron. See bibliography.

4. Vol. I, p. 1, of *Egyptian Astronomical Texts*, Otto Neugebauer and Richard Parker, Brown University Press, 1960-7.

5. *The Gods of the Egyptians*, London, 1904, Vol. II, p. 119.

6. Ibid., Vol. II, p. 113.

7. Ibid., Vol. II, p. 117.

8. Ibid., Vol. II, p. 215.

9. Ibid., Vol. II, pp. 202-3.

10. Ibid., Vol. II, p. 263.

11. Ibid., Vol. II, p. 265.

12. Ibid., Vol. II, p. 139.

13. Neugebauer and Parker, op. cit.

14. *Star Names, Their Lore and Meaning*, R. H. Allen, Dover Publications, New York, 1963, p. 130.

15. *Star Names, Their Lore and Meaning*, p. 168.

16. Ibid., p. 65.

17. *Ancient Near Eastern Texts relating to the Old Testament*, ed. by James B.

Pritchard, Princeton University Press, 1955, p. 33.

18. Ibid., p. 41.

19. Alexander Heidel, *The Babylonian Genesis*, University of Chicago Press, 1965, p. 86.

20. Wallis Budge, op. cit., Vol. I, p. 284.

21. Ibid., Vol. I, p. 290.

22. Ibid., Vol. II, p. 154, and Vol. I, p. 446.

23. Ibid., Vol. I, p. 154.

24. Ibid., Vol. II, p. 261.

25. Ibid., Vol. II, pp. 264-5.

26. Ibid., Vol. II, pp. 195-200.

27. Ibid., Vol. II, pp. 264-5.

28. 'Isis and Osiris', Loeb edition, p. 107.

29. Ibid., p. 39.

30. Ibid., p. 149.

31. Ibid., p. 147.

32. *The Oracles of Zeus*, H. W. Parke, p. 13.

33. *Thrice Greatest Hermes*, G. R. S. Mead, John Watkins, London, 1964.

34-Ibid., Vol. Ill, p. 95-He quotes from Wessley, *Denkschr d. k. Akad.* (1893), P-37,1 500.

35. See *Imhotep, the Vizier and Physician of King Zoser and afterwards the Egyptian God of Medicine*, by Jamieson B. Hurry, Oxford University Press, 1926.

36. I. E. S. Edwards, *The Pyramids of Egypt*, Penguin, 1970.

37. Hurry, op. cit., p. 20.

38. Ibid., p. 40.

CHAPTER THREE

The Sacred Fifty

We must return to the treatise ‘The Virgin of the World’. This treatise is quite explicit in saying that Isis and Osiris were sent to help the Earth by giving primitive mankind the arts of civilization: And Horus thereon said:

‘How was it, mother, then, that Earth received God’s Efflux?’ And Isis said: ‘I may not tell the story of (this) birth; for it is not permitted to describe the origin of thy descent, O Horus (son) of mighty power, lest afterwards the way-of-birth of the immortal gods should be known unto men - except so far that God the Monarch, the universal Orderer and Architect, sent for a little while thy mighty sire Osiris, and the mightiest goddess Isis, that they might help the world, for all things needed them.

“Tis they who filled life full of life. ‘Tis they who caused the savagery of mutual slaughtering of men to cease. ‘Tis they who hallowed the precincts to the Gods their ancestors and spots for holy rites. ‘Tis they who gave to men laws, food and shelter.’ *Etc.* They are also described as teaching men how to care for the dead in a specifically Egyptian way, which inclines one to wonder how a Greek could conceivably have written this unless during the Ptolemaic period: “Tis they who taught men how to wrap up those who ceased to live, as they should be.’

Now anyone knows this is Egyptian and not Greek practice. What Neoplatonist would include such a statement unless it were actually taken from an early source which he used, and which had been written by someone actually living in Egypt? The treatise ends this long section with: “Tis they alone who, taught by Hermes in God’s hidden codes, became the authors of the arts, and sciences, and all pursuits which men do practise, and givers of their laws.

“Tis they who, taught by Hermes that the things below have been disposed by God to be in sympathy with things above, established ^{Jl}3

on the earth the sacred rites over which the mysteries in Heaven preside. [The absence here of a blatant propaganda for astrology argues a pre-Ptolemaic date for this treatise; after the Greek and Babylonian influx a mild statement like this would have been almost impossible to make without the author dragging in all the paraphernalia of the astrology-craze of late Egypt.]

“Tis they who, knowing the destructibility of (mortal) frames, devised the grade of prophets, in all things perfected, in order that no prophet who stretched forth his hands unto the Gods, should be in ignorance of anything, that magic and philosophy should feed the soul, and medicine preserve the body when it suffered pain.

‘And having done all this, my son, Osiris and myself perceiving that the world was (now) quite full, were thereupon demanded back by those who dwell in Heaven ...’

And in the treatise Isis claims that the ‘Black Rite’ honours her and ‘gives perfection’. It is also concerned with the mysterious thing called ‘Night’ - ‘who weaves her web with rapid light though it be less than Sun’s’. It is made plain that ‘Night’ is not the night sky because it moves in the Heaven along with ‘the other mysteries in turn that move in Heaven, with ordered motions and with periods of times, with certain hidden influences bestowing order on the tilings below and co-increasing them’.

We must scrutinize the description of what is labelled ‘Night’ in this treatise. This description makes it perfectly clear that ‘Night’ is not ‘night’, but a code word. For it is said to have ‘light though it be less than Sun’s’. The dark companion of Sirius is a star and has light, though less than the sun. Also ‘Night’ is said ‘to weave her web with rapid light’ which specifically describes the

object as being in motion. Since Sirius B orbits Sirius A in fifty years, it moves more rapidly even than three of our sun's planets in our own solar system - Pluto, Neptune, and Uranus. Of these three, Uranus is the most rapid, and its orbit about the sun takes eighty-four years. So here is a star orbiting more rapidly than a planet! That may indeed be said to constitute 'weaving a web with rapid light'!

Now to turn to the Sumerian culture, or, more properly, the Sumero-Akkadian culture. It was roughly contemporaneous with ancient Egypt and I had already suspected its basic religious concepts to be so similar to those of Egypt that I imagined them to have a common origin. Then I discovered that Wallis Budge thought the same thing from his point of view as a distinguished Egyptologist. I am not aware of any Sumerologists having dealt with this particular problem.

Far more attention has been given to the known trading links which existed between Sumer and the Indus valley civilization, and also to the problem of deciding where Dilmun was located. Kramer thinks Dilmun was the Indus valley; Bibby follows Peter B. Cornwall and thinks it was the island of Bahrein in the Persian Gulf. But to the Sumerians this land, which lay in a direction seemingly other than that of Egypt, had immense importance. Consequently, it has tended to monopolize the attention of modern scholars investigating Sumerian geographical references. Kramer thinks that the land 'Magan' was probably Egypt and that Sargon even sent his armies there.

The basic Egyptian astronomy and the basic Sumero-Akkadian astronomy (this assumes a continuity of some sort, as there is no overtly astronomical treatise from the early period of Sumer) are identical. For the multitude of variations at a less basic level, one may consult Professor Otto Neugebauer's *The Exact Sciences in Antiquity*. But Neugebauer's interests lie with late material, as he admits, and he does less than justice to the earlier material, skimming over it quickly and making little of some things which are important. Here is an example of his attitude expressed in his own words near the beginning of Chapter V: 'Our description of Babylonian astronomy will be rather incomplete. The historical development will be given in bare outline. As in the case of Egypt, a detailed discussion of the few preserved early texts would require not only too much room but would also unduly exaggerate their historical importance. For the

late period, however, the opposite situation prevails.’ Well, at least Professor Neugebauer is honest about his preferences.

Having nodded in the direction of an authority who has voluntarily abdicated, we proceed. For our evidence we turn to E. A. Speiser’s translation¹ of the Akkadian creation epic known as the *Enuma elish* from the first two words of the text which mean ‘When on high ...’. At the very beginning of this text we read: He constructed stations for the great gods, Fixing their astral likenesses as constellations.

He determined the year by designating the zones: He set up three constellations for each of the twelve months.

After defining the days of the year [by means] of (heavenly) figures, He founded ..., etc.

In other words, the text gives a system identical with that recorded in the Egyptian star clocks. Twelve months composed of three ten-day weeks each, resulting in thirty-six constellations or ‘decans’ designating astral likenesses of gods. The text specifically states that there are twelve months consisting of three periods each (unless one strains the point enormously and maintains on no grounds whatsoever that these three periods are unequal, they must be of ten days each -hence ‘ten-day weeks’ as in Egypt), and that a constellation or ‘zone’ of the sky applies to each of these ‘weeks’. Since three times twelve equals thirty-six, we have thirty-six decans, each of which is ‘designated’ by a constellation. And also as in Egypt, each decan is an ‘astral likeness’ of a great god. It is surprising that no scholar has seen that this passage in the *Enuma elish* describes the Egyptian star-clock system down to the last detail.

No doubt also the five ‘epagomenal’ days left over in order to fill out this resulting 360-day year to a 365-day year are referred to in the line: ‘After defining the days of the year of (heavenly) figures,’ which is again identical with the Egyptian tradition where the five left-over days are each assigned to five different gods or heavenly figures and thus defined. In Egypt these five left-over

days are called 'the days upon the year'. These five days are also extremely important in Maya astronomy. But if we get into a discussion of Maya astronomy, we shall be stirring up a hornets' nest. It is not relevant to the purposes of this book.

We can see that the astronomical systems in Egypt and Sumer were absolutely identical in their fundamentals. Now these similarities between Egypt and Sumer are a far different matter from similarities of names of gods and religious concepts. One can always maintain that people in different parts of the globe spontaneously produce identical sounds when awe-struck by divine concepts. 'Everybody around the world says "Ma!" to Mother,' as we have all heard many times. But an astronomical system of this kind is a complex set of specific data. The fact that this Akkadian text tentatively dated by Speiser at the Old Babylonian period (i.e. the early part of the second millennium B.C.) records an astronomical system of this complexity which is identical with that of the Egyptian star clocks can be said to prove either contact between these two civilizations or a common derivation for the system. And it suggests a date which could serve as an upper limit. Culture contact during which this information was shared could not have been any later. Let any latest date accepted for the writing of the *Enuma elish* serve as an upper limit. If this be done, we find the first millennium B.C. as the upper limit, even for those who require incontrovertible physical proof. The contact between Egypt and Sumer must have been considerably earlier if direct, or it may not have been a contact, but rather a common derivation (which was Wallis Budge's favoured idea).

The Egyptian star clocks date from at least the reigns of Seti I (1303-1290 B.C.) and Ramses IV (1158-1152 B.C.) of the XIXth and XXth Dynasties respectively, on the walls of whose tombs they are found. Therefore these star clocks are at least as old as 1300 B.C. and seem to go back to the very origins of Egyptian culture. By the first millennium B.C. they had been changed and a fifteen-day week substituted for the ten-day week. Other innovations took place as well at later dates, and the system fell into a considerable decay and became, it seems, a relic. I should imagine that a rise in the popularity of the sun god Ra made stars and especially Sirius seem less important. In any case, the innate integrity of the

Sirius system in Egypt began to rot away and be ignored by the first millennium B.C., as it was superseded by ideas more obvious and less esoteric to impatient priests. Perhaps when this began to happen some purists may have gone off to other places where they hoped to retain the traditions without interference from decadent Pharaohs. We shall return much later to this idea, with some surprising information.

But let us return to Sumer and continue in hot pursuit. In Tablet VI of the *Enuma elish* we find an interesting passage. In it are mentioned the Anunnaki, who were the sons of An (An means 'heaven'), also known as Anu the great god. These Anunnaki were fifty in number and were called 'the fifty great gods'. Nearly always these Anunnaki were anonymous, the emphasis being on their number and their greatness and their control over fate. No certain identification of any important Sumerian god with any one of the Anunnaki exists except peripherally (as I shall describe later). In fact, all Sumerologists have been puzzled by the Anunnaki. They have not been 'identified' and no one knows exactly what is meant by them. They recur often throughout the texts, which makes it all the more annoying that nowhere are they explicitly explained. But their apparent importance to the Sumerians cannot be questioned.

In an early Sumerian fragment (from a time long before the civilization of the Babylonians) of the material concerning the epic hero Gilgamesh, entitled 'Gilgamesh and the Land of the Living', we find an antecedent to the tradition of the Argonauts of the Greeks. This fragment appears in a translation by Kramer.² In fact, I feel it is safe to say that this Sumerian fragment is the earliest known form of the story of that hero who was later to be named Jason. In the story from this fragment, the hero, Gilgamesh, wishes to go to the 'land of the living', which is described as being in the charge of the sun god Utu. In the story of Jason and the Argonauts, the hero, Jason, wishes to search for the golden fleece, which is known to be a solar symbol. In the Sumerian fragment we also find the surprising line: 'The hero, his teeth are the teeth of a dragon.' In the Jason story, the hero, Jason, sows the dragon's teeth! (So does Cadmus in another Greek tale which we shall examine later.) In the Jason story, Jason is accompanied on his quest by the fifty Argonauts. In the Sumerian fragment, Gilgamesh is accompanied by fifty companions also. Here is the relevant passage (in which

Gilgamesh is speaking): 'Who has a house, to his house! Who has a mother, to his mother!

'Let single males who would do as I (do), fifty, stand by my side.'

Who had a house, to his house; who had a mother, to his mother, Single males who would do as he (did), fifty, stood at his side.

To the house of the smiths he directed his step, The ..., the ... -axe, his 'Might of Heroism' he caused to be cast there.

To the ... garden of the plain he [directed] his step, The ... -tree, the willow, the apple tree, the box tree, the... [-tree] he [felled] there.

The 'sons' of his city who accompanied him [placed them] in their hands.

The fifty companions are mentioned several times. The fragmentary text is extremely broken and confused. Further light on the motif of sowing the dragon's teeth seems to come from a passage where Gilgamesh, who has for some unknown reason been asleep, was awakened, girded himself, stood like a bull on the 'great earth' and: 'He put (his) mouth to the ground, (his) teeth shook.' Note that it is at least open to question that the mouth and the teeth are actually his, and the word 'his' is both times in parentheses, put thus by the translator. But here is the entire passage: He put (his) mouth to the ground, (his) teeth shook. •

'By the life of Ninsun, my mother who gave birth to me, of pure Lugulbanda, my father, 'May I become as one who sits to be wondered at on the knee of Ninsun, my mother who gave birth to me.'

Apart from the fact that Gilgamesh's desire to sit on the knee of his mother, the goddess Ninsun, is similar to Horus sitting on the knee of his mother, the goddess Isis, as a constant motif in Egyptian art, there seems to be here an

obscure but significant reference to the fact that if the hero puts his mouth to the ground and his teeth shake, he can invoke a kind of rebirth in strength. I suspect that the translation needs to be worked on further, but it is difficult, as there are so many words in Sumerian whose meanings are not precisely understood. Whether or not it is Gilgamesh's own mouth and teeth that are being discussed here, the fact is that Gilgamesh seeks strength by putting some teeth to the ground - either his or someone else's. As previously in the same tale, there has been the clear statement: 'The hero, his teeth are the teeth of a dragon', we may assume that Gilgamesh's own teeth are probably being referred to - *his own teeth which have previously been described as being dragon's teeth*

Now in the lines following the putting of the teeth to the ground, we learn that Gilgamesh needs to summon strength by putting his teeth to the ground because he needs to fight. In the story of the *Argo*, Jason sows the dragon's teeth in the ground, and from them spring up armed soldiers who begin to fight - as is also the case in the story of Cadmus. So we see that in the two Greek myths, as also in this Sumerian fragment, the dragon's teeth go to the ground and a fight ensues where the hero has acquired superhuman strength. Later in this book we shall see the precise explanation of where this curious jumble originated, that it is specifically derived from an Egyptian sacred pun, and what it all means.

Let us look a little closer at the story of Jason and the golden fleece. The golden fleece was given to Phrixus and Helle by the god Hermes. The Egyptian god Anubis became known to the Greeks as their own Hermes. Furthermore, Diodorus Siculus (IV, 47) and Tacitus (*Ann.* VI, 34) explain the golden fleece's origin by saying that Phrixus and Helle (who flew away on the golden ram's back to Colchis, Helle falling in the Hellespont on the way and giving that body of water its name) really sailed in a ship with a ram's head on the prow, rather than having ridden the magical ram of the story. The fact that the more widespread myth which had an actual ram in the story maintained specifically that they *flew* on the golden ram, could refer to the idea of a celestial boat. Thus everyone is correct.

In any case, this boat would definitely have been a boat of Egypt, which to the Sumerians would have been called a 'Magan-boat', if we accept what Kramer

and others believe, namely, that Magan is Egypt. And the boat was a 'gift from Hermes' - in other words from Anubis. No wonder, then, that the Sirius-related fifty is connected with the golden fleece as well as Anubis. It is worth mentioning also that the fifty Argonauts were also called the Minyae, as they were all related to each other and of the same family, descended all of them from Minyas, who had been the king of the Minyan city of Orcho-menus in Boeotia, in Greece. So Jason and the Argonauts, fifty in number, all shared a kind of shadowy anonymity somewhat reminiscent of the fifty Anunnaki of Sumer, as they were often referred to simply as 'the Minyae' - a group of fifty related oarsmen in a celestial boat.

Later on we shall look extremely closely at the *Argo* story and also at the connections between the land Colchis, the object of its quest, and ancient Egypt, as attested for us by the historian Herodotus. But we must complete our look at the story of Gilgamesh and the Land of the Living. For even a boat is mentioned in that fragment, corresponding to the *Argo*. My equating a moment ago of the *Argo* with an Egyptian celestial barque must now be seen in conjunction with the following passage in which Gilgamesh's boat is specifically referred to as the 'Magan-boat'! I might add that the trees which Gilgamesh cut down and which his fifty companions 'placed in their hands' according to the text were probably their oars! Here, then, is the passage about the boat: Do thou help me (and) I will help thee, what can happen to us?

After it had sunk, after it had sunk, After the Magan-boat had sunk,

After die boat, 'the might of Magilum', had sunk, In the ..., the boat of the living creatures, are seated those who come out of the womb; I must emphasize that there is confusion here. In a footnote Kramer emphasizes that from the line 'After it had sunk' it is no longer certain that Gilgamesh is still speaking. It is not clear whether the Magan-boat has really sunk.

The phrase 'those who come out of the womb' to describe those who are seated in the Magan-boat may be meant to refer to those who are children of the goddess Nintu (also known as Ninmah, Ninhursag, and Ki - 'earth'). This,

combined with the strange reference to teeth, seems to refer to the children of the earth-goddess springing from the womb of the earth - for Ki, the earth-goddess (*ki* means 'earth' in Sumerian) is also Nintu or 'the goddess who gives birth'. (Ninmah means 'the great goddess' and Ninhursag means 'the goddess of the hill', a *hursag* or hill having been erected by her son - and she was named after it by him in commemoration of a significant mythical event; in Egypt Anubis is also called 'Anubis of the Hill', about which I shall have much to say later on, but suffice it here to note that if the Sumerians were to speak of 'Anubis of the Hill' they would call him Anpu-hursag.) Basically in the goddess who gives birth, and also in the earth-goddess, we thus find antecedents to the soldiers springing up from the dragon's teeth sown in the earth, and also the throwing over his shoulder of the 'earth's bones' (stones) by Deukalion, the Greek Noah, with the stones becoming men much as the teeth did in the other stories. (And teeth are bones!) In fact there are several points of contact other than this one between the Deukalion and Jason stories. For the ark of Noah is a concept which is identical with that of the ark of Deukalion, and both are magical ships in which sit 'those who come out of the womb', in the sense that they repopulate the world after the deluge. And both arks, but particularly that of Deukalion, are concepts related to the *Argo*. (As anyone who has read the full *Epic of Gilgamesh* will know, the ark of Noah in the Middle East before either the Hebrews or the name Noah even existed, was the ark of Ziusudra or the ark of Utnapishtim, and it occurs as an established element of the mythical background brought into the *Epic*.) For the ark of Deukalion rested on the mountain by the sacred oracle grove of Dodona, from which the *Argo* received its cybernetic guiding timber. Also, of course, the origin of the story of the flood and the ark (containing as it does 'archetypes' of all living creatures in pairs, and the word *arche* in Greek being definitely related to *ark*, as we shall see all too well much later in this book) is Sumerian at least, if not even before that something else (which we shall see in due course). But it was from this early source that the Greeks obtained their Deukalion and the Hebrews their Noah - both of which are extremely late forms of an exceedingly ancient story, which existed thousands of years before there were such things as either Greeks or Hebrews in existence. (Anyone really interested in the origins of Greek and Hebrew civilizations

should read Professor Cyrus Gordon's brilliant book *The Common Background of Greek and Hebrew Civilizations*.³⁾ Now the point of going into all this is really to show that the Argonaut motif of fifty heroes in a boat on a heroic quest exists in Sumer and forms a complement to the 'fifty great gods'. For if the Magan-boat's fifty heroes are seated, as the Anunnaki usually are, and are 'those who come forth out of the womb', and thus children, so to speak, of Nintu, 'the goddess who gives birth', then they may be directly equated with the Anunnaki. For the Anunnaki, as the children of An, would also be the children of An's ancient consort Ki or Nintu. In other words, the fifty heroes are heroic counterparts of the celestial Anunnaki. The corollary of this is, that the fact that there are fifty Anunnaki is not so likely to be a coincidence as might have been thought. This brings out all the more the immense significance of the number fifty.

The number occurs also in 'Gilgamesh, Enkidu, and the Nether World'. There Gilgamesh dons armour which weighs 'fifty minas'. And in this tale also Gilgamesh has fifty companions. In the later Babylonian version the fifty companions are omitted from the story. At that date the true nature of the symbolism of fifty must have been forgotten.

If we return for a moment to the intriguing *hursag* of the Sumerians, the strange 'hill', we must recall that Ninhursag the goddess of the hill is identical with Nintu the goddess who gives birth. Those are two separate names for the same deity. Now it is interesting to note that in Egyptian the word *tu* means 'hill', so that if we take the word *nin* which means 'goddess' and add the Egyptian *tu* we have 'the goddess of the hill', which in fact is a synonym.

This is by no means the end of this interesting investigation. For if we note that the Egyptian form of Horus (the son of Isis and Osiris) is Hem (which is a bit like Hero, isn't it?) and the traditional usage in Egyptian is to speak continually of *Heru-sa-something* which means Horus-the-son-of-somrf/u'ng, then we shall note that the strange and puzzling word *hursag* might really be the Egyptian Heru-sa-Agga, which means 'Horus the son of Agga'. It so happens that Agga is

an Egyptian synonym for Anubis. And ‘Anubis of the Hill’ has already been mentioned. What is more, the word *hursag* in its older Sumerian form is indeed *hursagga*, as may be seen in *The Babylonian Genesis*, Chapter 2, by Alexander Heidel, ‘A Sumerian Creation Account from Nippur’, where we read of the goddess Ninhursagga.

It also happens that Agga is in fact a reputable Sumerian name. There is in translation a short 115-line text entitled ‘Gilgamesh and Agga’ from the Sumerian period.⁴ In line eighty of this text is the mention of a ‘magurru-boat’, which is referred to in much the same way as the Magan-boat in ‘Gilgamesh and the Land of the Living’. Just as in that previous text the Magan-boat was being discussed as to whether or not it would sink, so in this latter text the ‘*magurru-boat*’ is being discussed as to whether or not it would have its prow cut down. Curiously, as in the other tale, in this one also the boat is described as having had the worst fate actually occur, for in line ninety-eight we learn that ‘the prow of the *magurru-boat* was cut down’, just as in the previous text we read: ‘After the Magan-boat had sunk,/ After the boat, “the might of Magilum”, had sunk.’

The connections between Egyptian and Sumerian words in sacred contexts become so multifold that it is impossible to ignore the continuities between the two cultures. Let us look, for instance, at the curious phenomenon of the cedar which Gilgamesh is always being claimed to have cut down. In ‘Gilgamesh and the Land of the Living’ Gilgamesh says: ‘I would enter the land of the cut-down cedar’ and later he is described as he ‘who felled the cedar’, etc. That is an early Sumerian text. In the actual *Epic* proper, as we have it, Gilgamesh goes to the Cedar Mountain and slays the monster Humbaba (or Huwawa) in ‘the cedar mountain, the abode of the gods’.

In Chapter XXII of *Hamlet’s Mill*, Santillana and von Dechend identify Huwawa with the planet Mercury. Now, remembering that Huwawa is also the god of the cedar forest, it is interesting to note that in Egyptian the word *seb* means ‘cedar’ and also means ‘the planet Mercury’! The subject is far more complicated than that, but I wanted to note the further source of an Egyptian pun for yet another crucial Sumerian motif. In other words, Huwawa is connected

with both Mercury (the planet) and the cedar, because the planet Mercury and the cedar are both called by the same name in Egyptian - namely, *seb*.

Let us now put aside the enigmatic monster-god Huwawa and turn to the *Epic of Gilgamesh* for another purpose. But in doing so let us note Kramer's opinion in his essay 'The Epic of Gilgamesh and Its Sumerian Sources',⁶ that 'the poem was current in substantially the form in which we know it, as early as the first half of the second millennium B.C.'

Let us recall that, in an early Sumerian fragment, Gilgamesh's mother was the goddess Ninsun 'who is versed in all knowledge', and upon whose knee he wanted to sit (like Horus on the knee of Isis). In the First Tablet we read: Indeed, Gilgamesh arose to reveal dreams, saying to his mother: 'My mother, last night I saw a dream.

There were stars in the heavens;

As if it were the host of heaven [one] fell down to me.

I tried to lift it, but it was too heavy for me: I tried to move it away, but I could not remove [it].

The land of Uruk was standing around [it], [The land was gathered around it];

[The people] pressed to [ward it],

[The men thronged around it,

[...] while my fellows kissed its feet;

I bent over it [as] [over] a woman

[And] put it at [thy] feet,

[And thou thyself didst put] it on a par with me.'

There is another version of this (both as translated by Heidel)⁶ at

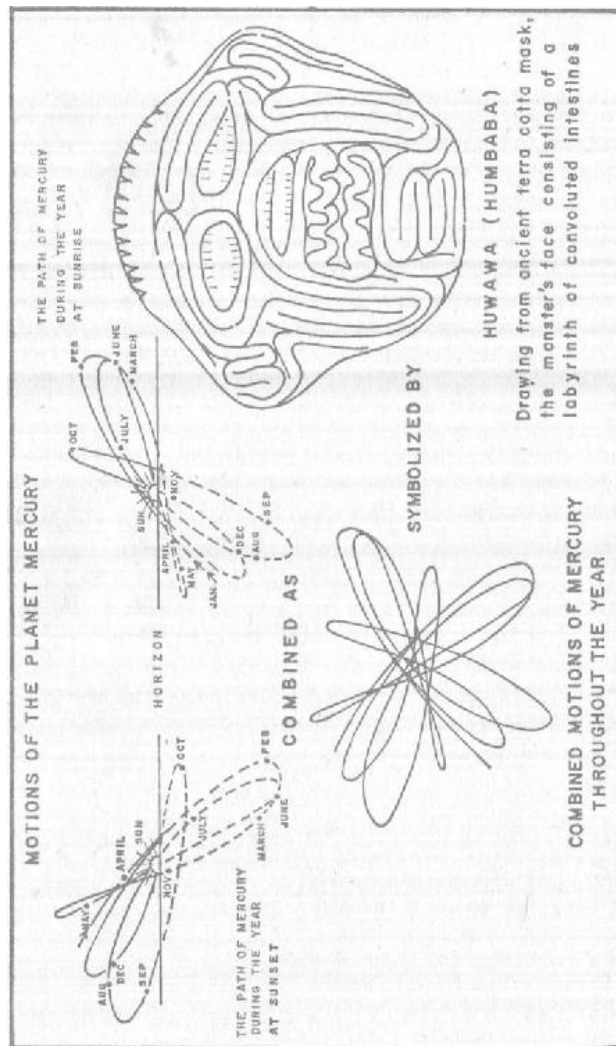


Figure 13 124

the beginning of Tablet II in the Old Babylonian version which is older than the above Assyrian version and preserves more of the original significance: Gilgamesh arose to reveal the dream,

Saying to his mother:

‘My mother, last night

I felt happy and walked about

Among the heroes.

There appeared stars in the heavens.

[The h]ost of heaven fell down toward me.

I tried to lift it but it was too heavy for me; I tried to move it, but I could not move it.

The land of Uruk was gathered around it, While the heroes kissed its feet.

I put my forehead [firmly] against [it], And they assisted me.

I lifted it up and carried it to thee.’

Kramer translates the two versions somewhat differently.’ One of the most important changes occurs in his translation of what Heidel before him had rendered as ‘the host of heaven’. Kramer renders ¹Ari not as ‘heaven’ but as An (or Anu), the god who was the father of the Anunnaki. And the word which Heidel renders as ‘host’ he comments on in a footnote at considerable length: As regards *ki-sir*, there are too many possible meanings. Furthermore, the one adopted for this passage (‘the *ki-sir* of Ninurta’ earlier than our passage) should also apply to ... the war-god Ninurta, and the sky-god Anu, Enkidu, and something that fell down from heaven. The common assumption that the author may have used in these passages the same term in more than one sense is unsatisfactory.

In the earlier edition I tried to justify for *kisru* the rendering 'liegeman' for the several passages in question. I now withdraw that suggestion. The correct sense, I believe, is indicated by the use of the term in medical contexts as 'concentration, essence', cf. E. Ebeling, *jfCS*, IV (1950), 219. 'Essence', or some nuance of this term, could well be applied to deities as well as to missiles from heaven. Our poet had in mind, no doubt, some specific allusion, but the general meaning appears clear enough.

Kramer, then renders 'the host of heaven' as 'the essence of An'. He says: 'Like the essence of Anu it descends upon me.' He adds another footnote to comment on the word 'it' in this sentence: 'One of the stars?'

Kramer also changes the last lines in the first version: '[I] was drawn to it as though to a woman.

And I placed it at [thy] feet,

For thou didst make it vie with me.'

The emphasis here on being 'drawn to it' may be important. He continues: [The wise mother of Gilgamesh, who] is versed in all knowledge, Says to her lord; [Wise Ninsun], who is versed in all knowledge, Says to Gilgamesh:

'Thy rival, - the star of heaven,

Which descended upon thee like [the essence of Anu]; [Thou didst seek to lift it], it was too stout for thee; [Thou wouldst drive it off], but couldst not remove it; [Thou didst place] it at my feet,

[For it was I who made] it vie with thee; Thou wert drawn to it as though to a woman -'

Let us look once again at part of the second version, this time as Kramer gives it:⁸

‘My mother, in the time of night

I felt joyful and I walked about

In the midst of the nobles.

The stars appeared in the heavens.

The essence of Anu descended towards me.

I sought to lift it; it was too heavy for me!

I sought to move it; move it I could not!

All this, which we have examined here in two translations each of two versions, was worth seeing from these several angles. It helps us cover all the possibilities of meaning. It should be obvious that the reference is clearly to a star connected with ‘the essence of Anu’ which ‘draws him towards it’ and is in the area of the (fifty) heroes - and is super-heavy.

Thus we see that in Sumer both the concepts of the heavy star (later *al Wazri*) and of the figure ‘fifty’ associated somehow with that star are present. Does this look familiar to anybody?

In Tablet VI of the *Enuma elish* we read⁹ about the Anunnaki and something called ‘the Bow Star’ which is their brother and is in the midst of them as they are seated in the celestial regions. This Bow Star is also the daughter of Anu, who raises it up in their midst. (Remember ‘the essence of Anu’.) What is being referred to seems to be Sirius. Remember the Egyptian goddess Sati (or Satis) with her bow, who was one of the three goddesses (one was Sothis and the third was Anukis) riding in the celestial barque of Sothis (Sirius). Also recall the other

connections of the bow with Sirius, even in China. (And here one must refer to the book *Hamlet's Mill* for many examples.¹⁰) Now with particular reference to the three goddesses which Neugebauer claims are versions of Sothis ('The goddess Satis, who like her companion Anukis is hardly to be taken as a separate constellation but rather as an associate of Sothis'), note the following emphasis on three names for the star, only one of which is 'Bow Star':

The fifty great gods took their seats.

The seven gods of destiny set up the three hundred [in heaven].

Enlil raised the bo[w, his wea]pon, and laid (it) before them.

The gods, his fathers, saw the net he had made.

When they beheld the bow, how skilful its shape, His fathers praised the work he had wrought.

Raising [it], Anu spoke up in the Assembly of the gods, As he kissed the bow: 'This is my daughter!'

He mentioned the names of the bow as follows: 'Longwood is the first, the second is [...]; Its third name is Bow-Star, in heaven I have made it shine.'

He fixed a place which the gods, its brothers, [...].

A footnote says of the word 'its' in the last line: 'Referring to the Bow, as indicated by the feminine possessive prefix in line 94.' (In Egyptian the word *Sept*, which is the name of the star Sirius, also has the meaning 'a kind of wood',

though whether this could be 'longwood' or not is anyone's guess.) We continue:

After Anu had decreed the fate of the Bow, And had placed the exalted royal throne before the gods, Anu seated it in the Assembly of the gods.

The phrase 'the Assembly of the gods' invariably refers to the seated assembly of the fifty Anunnaki. So it is clearly stated, we see, that this 'Bow Star' - the daughter of An - was placed by An on the exalted throne in the midst of the fifty Anunnaki. In Egypt, Isis as Sothis was also pictured as seated on a white royal throne in the heavens. She too was the daughter of the sky god. The hieroglyph for Ast (or Isis) is a throne. And the hieroglyph for her husband Asar (or Osiris) is a throne above an eye.

Before proceeding, we had better see who 'the seven gods of destiny' are. They are often referred to as the seven Anunnaki of the underworld. This, we shall see, also relates to the Sirius question. But the use of Anunnaki in this way underscores the total anonymity of the term 'Anunnaki'. Needless to say, none of these seven Anunnaki is ever identified as an individual god. They are always 'the seven' underworld gods who determine destiny. The strictly celestial Anunnaki are also known as the Igigi. No Sumerologist has satisfactorily explained all this. It is terribly imprecise and confusing - unless one had a structure to supply which fits under the cloth and matches the contours and can thereby be accepted as a tentative basis of explanation.

Now let us try to think of what we know is connected with the celestial Anunnaki and Sirius which also fits into this idea of there being seven Anunnaki-gods in the underworld. Remember that in both Sumer and Egypt each god of significance in astronomical terms has his own ten-day period or 'week'. If we multiply seven (gods) times ten days we get seventy days. Is there any basis for this length of time being of significance for the underworld in either

Sumer or Egypt? Yes! In Egypt the underworld is called the Duat (or Tuat) and the seventy-day period is very significant there and relates intimately to Sirius, as we have seen in our fairytale.

Parker and Neugebauer say¹¹: 'It is here made clear that Sirius (Sothis) gives the pattern for all the other decanal stars.' Sirius was, astronomically, the foundation of the entire Egyptian religious system. Its celestial movements determined the Egyptian calendar, which is even known as the Sothic Calendar. Its heliacal rising marked the beginning of the Egyptian year and roughly coincided with the flooding of the Nile. (Plutarch says the Nile itself was sometimes called Sirius.) This heliacal rising was the occasion of an important feast. One can imagine a kind of New Year-cum-Easter. The heliacal rising was the occasion when Sirius again rose into visibility in the sky after a period of seventy days of being out of sight, during which time it was conceived of as being in the Duat, or underworld. A further connection with Anubis comes in here, as Anubis was conceived of as embalming Sothis for these seventy days in the Duat. But as we all know an embalmed mummy is supposed to come alive again. And this is what happens to the mummy of Sothis. Sothis is reborn on the occasion of her heliacal rising. Parker and Neugebauer also say:¹² 'During the entire time of its purification it (Sothis, the star) was considered dead and it was only with its rising again out of the Duat that it could once more be considered as living.'

The Egyptians stubbornly clung to the traditional seventy days as the prototype of an underworld experience, despite its inconvenience, and, as we have already seen, 'Sirius gives the pattern for all the other decanal stars'. In fact, it was the practice through all of Egyptian history for there to be a period of precisely seventy days for the embalming of a human mummy - in imitation of Sirius. Even during the late Ptolemaic period, the embalming process invariably lasted the precise period of seventy days.

In the 'Descent of Ishtar to the Nether World'¹³ the Anunnaki are described as being brought forth (they are referred to as if they were stuffed animals being brought out of a closet, dusted off, and displayed in a taxidermists' contest) and seated on thrones of gold. Once more the throne concept appears. It seems all the Anunnaki ever do is sit and be symbolic.

I might mention that in this story the nether world is described as having seven gates leading to seven successive rooms (or caves). It is obvious that the period of seventy days during which Sirius was 'in the underworld' to the Egyptians led to a breaking down of the seventy days into ten-day weeks each with a god, giving seven gods. But these seven gods of the underworld must not have personalities lest there be the distraction of personal qualities to detract from the purely numerical significance of the concept. And of course the seven rooms of the seven gods are successive, leading from 'week to week' until Sirius again rises. So we see yet another essential link between the early Sumerian concepts and the Egyptian concepts.

Thus we find the explanation of the seven Anunnaki of the underworld ! It is also interesting to note that in ancient Mexico the underworld was thought to have seven caves.

In later times the god Marduk usurped the central position of the pantheon from all the other gods in Babylon. The *Enuma elisli* is largely a description of this process and is basically written to Marduk, telling of his honours. This was quite an innovation, a real centralization of power. 'The black-headed people', which is how the Sumerians usually referred to themselves in their writings (when the context is sufficiently pious they meekly call themselves 'the beclouded'; it is also interesting to note that the Egyptians were known as 'the *melam-podes*' or 'the black -*footed* people' to the Greeks!) obviously didn't take to the rise of Marduk with unanimous acclaim. In many ways the *Enuma elish* is a blatant propaganda tract for Marduk, alternately trying to convert and to denounce the people.

The supporters of Marduk thought the best way to glorify their god was to give him fifty names. Then, with any luck, he would be omnipotent.

All the fifty names are given, along with short comments following each. In a footnote Speiser says, revealingly, that: 'The text etymologizes the names in a manner made familiar by the Bible; the etymologies which accompany virtually every name on the long list are meant to be cabalistic and symbolic rather than strictly linguistic, although some of them happen to be linguistically sound.'

The list ends and we read in the text: With the title 'Fifty' the great gods Proclaimed him whose names are fifty and made his way supreme.

This final note adds a last flourish of emphasis to the importance to the supreme god of the title 'Fifty' as well as the designation by fifty names.

There is one cluster of names among the fifty given which is of particular interest. They are Asaru, Asarualim, Asarualimnunna, and the group of three centred round the similar name Asaruludu (the other two being Namtillaku and Namru). I suspect these names of being related to the Egyptian Asar (Osiris). We have already seen how the An of Egypt was known in Sumer not only as An but as Anu, picking up a 'u' ending. It is therefore not so senseless to see in Asaru a Sumerian form of Asar, with the same 'u' ending added. But the Egyptians themselves also had an Asaru, or more precisely, an Asar-uu, whom Wallis Budge describes as 'a form of Osiris worshipped in lower Egypt'.

Since Asaru in Sumer corresponds to Asar-uu in Egypt, what about the Sumerian Asaruludu? In Egyptian a vegetative Osiris would be known as Asar-rutu but as is well known, the liquid 'r' and T are in Egyptian entirely interchangeable and represented by the same hieroglyph. So Asar-rutu could just as well be Asar-lutu, and the lingual 't' as opposed to a dental 't' is pronounced

rather like a'd', being a softer sound. If we merely transliterate it thus, we have Asar-ludu. It would mean, 'Osiris of the growing plants'. And in fact, in the Sumerian text, we find Asaru described as 'bestower of cultivation ... creator of grain and herbs, who causes vegetation to sprout'.

Immediately after one of the Asaru-names of Marduk in the *Enuma elish* we find that this thirteenth name is Tutu. It so happens that Tutu is the name of an Egyptian god. Wallis Budge describes him as 'a lion-god, son of Neith'. (Wallis Budge says that Neith was: 'One of the oldest goddesses of Egypt. She was the goddess of hunting and weaving, but was identified with many other goddesses such as Isis, Meh-urt, and their attributes were assigned to her.'¹⁴) There is even an Egyptian precedent for the use of Tutu as one name of a god who has many names. The Egyptian monster of darkness, Apep, 'possessed many names; to destroy him it was necessary to curse him by each and every name by which he was known. To make quite sure that this should be done effectively, the Papyrus of Nesi-Amsu adds a list of such names, and as they are the foundation of many of the magical names met with in later papyri they are here enumerated ..'.¹⁵ And one of these is Tutu. Surely this almost identical preoccupation with the need to enumerate every one of the magical names of a god in both countries must have common origins - especially as the name *Tutu* is in the lists of both countries.

It is important to look even closer at the Egyptian god Tutu. In Heidel's translation of the *Enuma elish* he gives for Asaruludu the early Sumerian epithet *namšliub* as opposed to the late Babylonian form *namru* - both meaning 'bright', and in the text further explained as, 'The bright god who brightens our way'. In a footnote Heidel explains: 'The poets are here apparently playing on the Sumerian term *shuba*, which is equated with the Babylonian words *ebbu*, *ellu*, and *namru*, all of which mean "bright".' Now, what is so interesting is that in Egyptian the word *shu* means 'bright' and also describes the sun god - who is indeed a 'bright god who brightens our way'. So we see that *shu* in Egyptian means the same as *shuba* in Sumerian. Furthermore, both are made to apply to a

description of the sun. Also the Sumerian *shuba* is made to refer to Asarluhi, and we may now take note of the further surprising fact that the Egyptian god Tutu is, according to Wallis Budge: 'a form of the god Shu, whose symbol was a lion walking'.¹⁶

So as we examine the material we find an increasingly complex weave of common patterns in Egypt and early Sumer both linguistically and in religion-astronomy. Later in the book we shall see this all reach a meaningful climax.

Notes

1. In Pritchard, *Ancient Near Eastern Texts*.
2. Also in Pritchard, *ibid*.
3. Pub. by W. W. Norton & Co., New York, 1965. An earlier edition of this book had a different title: *Before the Bible*.
4. Also in Pritchard, *op. cit*.
5. *Journal of the American Oriental Society*, 64 (1944), p. n.
6. Heidel, Alexander, *The Gilgamesh Epic and Old Testament Parallels* University of ..Chicago Press, 1970.
7. Pritchard, *op. cit*.
8. *Ibid*.

9. Ibid. Also see p. 514, Addenda: New Text Fragments, in same vol.

10. de Santillana, Giorgio, and von Dechend, Hertha, *Hamlet's Mill*, Macmillan & Company Ltd., London, 1969.

11. *Egyptian Astronomical Texts*, Vol. I, p. 74.

12. Ibid., p. 73.

13. Pritchard, op. cit., p. 106.

14. *Book of the Dead*, trans. by Wallis Budge, p. 176, n.

15. Wallis Budge, *The Gods of the Egyptians*, Vol. I, p. 326.

16. Wallis Budge, op. cit., Vol. I, pp. 463-4.

CHAPTER FOUR

The Hounds of Hell

Since Sirius is the Dog Star, let us turn to the dog-headed Sumerian goddess Bau. According to Thorkild Jacobsen,¹ 'Bau seems originally to have been goddess of the dog and her name, Bau, to have constituted an imitation of the dog's bark, as English "bowwow"'. In Egyptian a word for 'dog, jackal', is **Auau**, which probably has the same 'dog's bark' derivation as the Sumerian Bau. Bau was also the daughter of An. So here the dog-goddess is the daughter of An, whereas in Egypt the dog-god was himself An-pu (Anubis). Since An is connected with Sirius, we should thus not be surprised that he has a dog-goddess for a daughter in Sumer. Sirius as the Dog Star was a tradition which was not thought to have existed in Sumer, however, before now.

Since the fifty Anunnaki were children of An, and Bau is a daughter of An, it is not far-fetched to see in Bau a survival (for she is an old goddess who faded into obscurity in later times) of the concept of a dog-star goddess equivalent to Isis as Sothis. And it is interesting that she was dog *-headed*. For Anubis was not entirely a jackal or dog, he was merely jackal-or dog-headed.

Bau's husband Ninurta was the son of Enlil. Just as Marduk usurped the position of chief god, at a somewhat earlier time Enlil had usurped this position from An. There is an interesting 170-line hymn to Enlil² which seems to describe a stellar abode for the god. The 'lifted eye' or 'lifted light' scanning and searching the lands sounds reminiscent of the Dogon concept of the ray of Digitaria which once a year sweeps the Earth. In any case, a 'lifted light' which searches and scans is definitely a beam or ray, and is in its own right an interesting concept for the Sumerians to have had as situated in the celestial abode. I must emphasize in advance for the reader that lapis lazuli was considered by the Sumerians to represent the night sky. Here then are significant excerpts from the hymn:

Enlil, whose command is far-reaching, whose word is holy, The lord whose pronouncement is unchangeable, who forever decrees destinies, Whose lifted eye scans the lands,

Whose lifted light searches the heart of all the lands, Enlil who sits broadly on the white dais, on the lofty dais ...

The lofty white dais of Sothis-Sirius is an Egyptian concept. It is Ast (Isis). It is also Asar (Osiris), with the addition of a hieroglyphic eye. Later we find in this hymn from Sumer the city of Nippur's temple in comparison: The Ekur, the lapis-lazuli house, the lofty dwelling place, awe-inspiring, Its awe and dread are next to heaven, Its shadow is spread over all the lands Its loftiness reaches heaven's heart.

This mention of the lapis lazuli aspect of Enlil's abode and also that it reaches heaven's heart makes quite clear that we are not merely dealing with a solar description. It is not the sun but a stellar abode that is being distinctly described. Hence the references to the ray or beam are all the more curious as they do not refer to the sun's light as might have been thought from a superficial reading. We continue: Heaven - he is its princely one; earth - he is its great one, The Anunnaki - he is their exalted god; When in his awesomeness, he decrees the fates, No god dare look on him.

Here we see Enlil has been called the exalted god over the Anunnaki. Here Enlil has also himself been given the power of decreeing the fates, which the Anunnaki traditionally do themselves. In the fourth line from the end above, 'heaven' is An and 'earth' is Ki. An and Ki were married. The compound *an-ki* is Sumerian for 'heaven-earth' and is the word meaning 'universe'. Note the similarity between *an-ki* and the name of the Egyptian goddess Anukis who is identified with Sothis-Sirius. Also, of course, the similarity to the name Anunnaki.

So we find the above stellar descriptions of Enlil, the father-in-law of the dog-

headed goddess we tentatively identify with Sirius. And we find those fifty irrepressible Anunnaki creeping in again. They manage to turn up everywhere, given half a chance, when the subject of Sirius comes up.

Now the many similarities between Sumer and Egypt which we have so far noted, which have led us to consider the possibility of the two nations having been in some way linked, may be referred to in a most interesting passage from Josephus,³ in which 'the children of Seth' are mentioned. Many ancient writers supposed Seth to have been Hermes Trismegistus. This fact may suddenly be more important in the light of what we have begun to suspect about a scantily surviving authentic Hermetic tradition. Here is the passage: 'The children of Seth' were the inventors of that peculiar sort of wisdom which is concerned with the heavenly bodies, and their order; and that their inventions might not be lost before they were sufficiently known, upon Adam's prediction, that the world was at one time to be destroyed by the force of fire, and at another time by the violence and quantity of water, they made two pillars, the one of brick, the other of stone. They described their discoveries on them both, that in case the pillar of brick should be destroyed by the flood, the pillar of stone might remain, and exhibit those discoveries to mankind, and also inform them that there was another pillar of brick erected by them. Now this remains in the land of Syria or Seirad to this day.

This passage calls forth many comments. The point which immediately springs to one's notice is that there is a 'pillar of brick' in the land of Syria. Well, this is the very land of brick! It is the land of the brick ziggurat or 'great mountain' - a giant pillar if you like. But where is the land of stone? Why, it is obviously Egypt, the land of the great stone pyramids. Here, then, is a description of two linked cultures, one building brick edifices and the other building stone edifices. In Egypt we have the Great Pyramid, which so many people have believed to contain in its basic construction the proportions and measurements to demonstrate that it was constructed by highly advanced and civilized men. The great ziggurats of Babylon and other cities, too, though in a more ruinous state, seem to embody in their construction much that is profound. Can it be that Josephus has preserved a tradition of the link between Egypt and Sumer and their respective types of building ? He says the link was an astronomically-defined one. 'The children of Seth' first possessed 'that peculiar sort of wisdom

which is concerned with the heavenly bodies'. Well, we have already discovered for ourselves that the fundamental astronomical and astronomical-religious concepts were common to earliest Egypt and Sumer. And here is Josephus telling us the same thing.

But now let us pursue other relevant ramifications of Egypt found elsewhere. And let us do so by returning to the subject of the *Argo* and the fifty Argonauts, who were all Minyae who were led by Jason in the quest for the golden fleece at the mysterious land of Colchis, which actually existed and was just about as strange a locale as one could wish. For if you sail through the Hellespont (named after Helle, who fell from the golden ram) into the Black Sea, and follow the coast of present-day Turkey until you come to the region of the border with the Soviet Union of today, you will have come to Colchis. It is a strange place for the Greeks to attach so much importance to. It sits at the foot of the formidable Caucasus Mountains and not far away are the Georgian people who live in their mountains to such ages as a hundred and ten, with a culture peculiarly their own. Not far to the south is Mount Ararat, where the ark of Noah landed after the Flood. Surely this is a most unusual land, and far removed from the Greek world. Or is it?

Minyas had a great-grandson called Phrixus. Phrixus had four sons who lived in Colchis, to which he had fled on the back of the golden ram and where he gave the golden fleece to the local King of Colchis, and in return was made welcome and married the king's daughter. It is obvious that these four sons were only half-Colchian and would feel some loyalty towards their father's homeland which was in mainland Greece. Sure enough, on his deathbed Phrixus asked his sons to return to Orchomenos, his home in Greece, to reclaim their birthright there. This they agreed to do. For Phrixus's father had been the King of Orchomenos (as had Minyas) and these sons should be able to claim what honour and position (not to mention more material matters) was rightly theirs. However, they knew that setting things straight might be a bit difficult, as their father and his sister Helle had left in rather a hurry on the golden ram with the blessing of Hermes, but not with too many tears being shed in Orchomenos at the time.

So these four sons set out and were shipwrecked but were fortunately picked up

and rescued. Who rescued them? None other than our fifty Argonauts who were just passing. In fact, these Argonaut cousins of theirs were at that moment just happening by on their way to Colchis where their mission was to try to get that fleece back. The four young fellows had no objection to such a plan, especially as they were also descended from Minyas. The Argonauts had been losing some of their men (for instance, Hercules and Hylas had vanished; Hylas was dragged down into a stream by a passionate water nymph and Hercules went berserk and wandered off into Turkey calling Hylas's name in vain, later founding cities and doing various Herculean things). So these four fellows from Colchis were just the thing to recharge the ranks.

But what about this place Colchis? Perhaps if we examine it we shall find some Egyptian connections.

In fact if we look at the *Histories* of Herodotus⁴ we read: 'It is undoubtedly a fact that the Colchians are of Egyptian descent. I noticed this myself before I heard anyone else mention it, and when it occurred to me I asked some questions both in Colchis and in Egypt, and found that the Colchians remembered the Egyptians more distinctly than the Egyptians remembered them. The Egyptians did, however, say that they thought the Colchians were men from Sesostri's army.' This Sesotris is identified tentatively by scholars with Ramses II. Herodotus continues: My own idea on the subject was based first on the fact that they have black skins and woolly hair (not that that amounts to much, as other nations have the same), and secondly, and more especially, on the fact that the Colchians, the Egyptians, and the Ethiopians are the only races which from ancient times have practised circumcision. The Phoenicians and the Syrians of Palestine themselves admit that they adopted the practice from Egypt, and the Syrians who live near the rivers Thermodon and Parthenius, learnt it only a short time ago from the Colchians. No other nations use circumcision, and all these are without doubt following the Egyptian lead. As between the Egyptians and the Ethiopians, I should not like to say which learned from the other, for the custom is evidently a very ancient one; but I have no doubt that the other nations adopted it as a result of their intercourse with Egypt, and in this belief I am strongly supported by the fact that Phoenicians, when they mix in Greek society, drop the Egyptian usage and allow their children to go uncircumcized.

And now I think of it, there is a further point of resemblance between the Colchians and Egyptians: they share a method of weaving linen different from that of any other people; and there is also a similarity between them in language and way of living. [Circumcision is absolutely fundamental to Dogon culture for religious reasons.]

So here we see a probable (indeed, almost entirely certain) explanation for the connection of Colchis with the Argonaut story. No wonder the Hermes-given (which is to say, Anubis-given) golden fleece was at Colchis. For Colchis was a thoroughly Egyptian country. But because the heroes of a Greek tale must be Greeks and not Egyptians, the Argonauts are all Minyae from Greece. The familiar anonymity of 'the fifty' witnessed by us with the Anunnaki of Sumer, prevails here among the Argonauts as well. H. W. Parke has pointed out that the Apolline seers were apparently injected into the Argonaut story as a propaganda effort by the rising power of the Delphic Oracle which was trying to squeeze out the premier oracle of Dodona and achieve first place for itself in the eyes of the Greek public. Delphi was quite an upstart in the centuries immediately preceding the classical period, and initially was not more important than Dodona, though it was to become so and held precedence by the time of Socrates and the classical Greeks.

Homer proves the antiquity of the *Argo* saga by his mention in the *Odyssey* (XII, 69-72) of 'the celebrated *Argo*' and of Jason and the Clashing Rocks. Significantly, no other Argonaut is mentioned by name by Homer. It is obvious, in fact, from what I said above, that the Argonauts were primarily noted for being fifty in number and related (a comfortable kind of anonymity - cousins!). Outstanding Hellenic heroes were thrown into their ranks by the caprices of successive epic poets to provide recognizable colour. With the exception of Jason there is total disagreement among everyone concerned about just who were the Argonauts. And according to Robert Graves in *The Greek Myths*, Jason was originally Hercules. And Hercules was originally Briareus. Of course, the answer is that they were not individuals and were not meant to be.

They were fifty and they were related and usually seated and they sailed in a magic boat. Just like the Anunnaki, and just like the fifty anonymous

companions of Gilgamesh! And in the Gilgamesh fragments from the early Sumerian times, the boat mentioned is a 'Magan-boat', or Egyptian boat. It must be remembered also that Sumer is located between Egypt and Colchis.

We are now beginning to get down to the bare bones of the *Argo* story. I don't believe that the earliest levels of this ancient tale have ever previously been reached.

Not only Herodotus, but Pindar as well, describes the Colchians as dark. In his IVth Pythian Ode, which is largely about the Argonauts, Pindar says (212): 'Among the dark-faced Kolchians, in the very presence of Aeetes'. Pindar therefore confirms Herodotus on this point.

It remains to attempt a dating. If Herodotus is correct and the Colchians were Egyptian soldiers dating from the reign of Sesostris (Ramses II), then they would have gone to Colchis at some time during the years 1301-1234 B.C., which is estimated by John A. Wilson⁵ as the period of the reign of Ramses II. This dating is only of use as an indicator of the general antiquity of the origins of our material. There does not seem to be any archaeological information of any kind from the undiscovered site of Aea, the capital city of Colchis, which is on the coast of the Black Sea (just by a river known anciently as the Phasis), just across the border of the Soviet Union from Turkey. I would suspect the site of Aea has never even been sought! It would certainly make an interesting site for excavation. It would presumably offer an unusual amount of Egyptian-style material mixed with Armenian-Caucasian styles. It should be extraordinarily interesting from the point of view of ancient art, almost certainly being quite rich in precious metals and beautiful metal-working, particularly gold. It was near a famous ancient metallurgical centre. And, of course, there should be finds which would confirm Herodotus's account.

Here is a description of the site, for those who wish to seek it: 'They reached the broad estuary of the Phasis, where the Black Sea ends ... and then rowed straight up into the mighty river, which rolled in foam to either bank as it made way for *Argons* prow. On their left hand they had the lofty Caucasus and the city of Aea, on their right the plain of Ares and the god's sacred grove, where the

snake kept watch and ward over the fleece, spread on the leafy branches of an oak.'

To return to the question of dates (also bearing in mind Homer's early casual reference to 'the celebrated *Argo*'), we'll recall my mention of dates when I showed the identical nature of the Sumerian and Egyptian astronomical systems in their essential details. I pointed out then that the Babylonian tablets were dated from the second millennium B.C., giving us an upper limit on time in the Sumerian region. The Egyptian star clocks to which they bear such total resemblance calendrically had already altered (such as by the introduction of a fifteen-day week instead of a ten-day one, indicating the advanced degeneration of the traditions) in Egypt in the first millennium B.C.

Hence we see that the Egyptian star clocks no longer existed in the necessary form by the first millennium, giving us an upper limit date in Egypt of the end of the second millennium B.C., identical with the upper limit we have in Sumer. I am tempted now to steal a phrase of the physicists and remind the reader that these dates are of an order of magnitude comparable with the date of Ramses II's reign adopted tentatively for the settlement at Colchis of Egyptian colonists. Surely these three dates cannot coalesce accidentally round the same material! We have no choice but to adopt the approximate date of 1200 B.C. as the upper limit for the spread (and subsequent degeneration) of our Sirius-related material throughout the Mediterranean area, from whichever source it originated.

It may perhaps be of some relevance that this coincides roughly with the end of Minoan domination of the Mediterranean. From the point of view at least of the spread of the Sirius material, I would connect it with what seems to me an obvious fact: that when Minoan sea power, based on Crete, collapsed, the Egyptians and inhabitants of the Near East could and did expand their own maritime activities to fill the vacuum left by the disintegration of the Minoan fleets.

I am inclined to believe the increasingly strong and accumulating evidence that the Minoan culture was dealt a death blow by eruptions of the volcano Thera.

The Minoan cities had no walls. On their island the Minoans relied, it seems, on their unchallenged sea power to keep enemies at bay, just as the Spartans in their unwallled city of Sparta in mainland Greece relied on their unchallenged land power to keep enemies at bay in late classical times. For the Cretan island could not be reached by enemies on foot, and as the Minoans had total naval superiority they could not be threatened at home. The latest conclusions about Thera seem to be that the towns on that small volcanic island near Crete were first evacuated due to earthquakes some years before the final volcanic eruption which destroyed Minoan civilization.

Herodotus in Book I of his *Histories* gives us a good illustration of how hopeless it is for a land power to challenge a sea power on the sea, when he shows the landlubber Lydians abandoning their plans to build ships and extend their conquests to the islands because they are aware they just don't know what they're doing. If the Minoan fleets had been sunk in great tidal waves following volcanic eruptions, the Minoans would have had no choice but to come to an understanding with the Mycenaeans. Any other possibility would have meant suicide. Probably they made a graceful and dignified pact or series of pacts which made the inevitable seem voluntary. And if the Mycenaeans were traditionally a good bit in awe of the more sophisticated Minoans, so much the better for the Minoans who 'condescended' to come to terms like gentlemen.

But the 'spheres of influence' of the sea-going Minoans could not be taken over immediately by the Mycenaeans, who lacked the maritime skill (not to mention ships) to complement on the waves their success in overrunning most of the island of Crete, probably leaving certain areas to the native Minoans according to the pacts I have suggested. It is not that the Mycenaeans would have lacked the energy or will, but the Minoan fleets would have been destroyed and even the most willing Minoan sailors could not sail non-existent ships for the Mycenaean invaders. Furthermore, the work of consolidating power on the recently taken island would have been a protracted and distracting matter for the Mycenaeans. So, for all these reasons, the new Cretan rulers could not attain to the full stature of their predecessors and be in complete command of the Mediterranean Sea.

Egypt, which is known to have traded heavily with Crete under the Minoans,

must have found itself without choice: expanded maritime activity on her own account or a severe starvation of imported goods. There may even be a possibility that the name Minyas (and, hence, Minyae for the Argonauts) may have some connection with Minos (which gave us the word Minoan). After all, the Minoans were in considerable contact with the Egyptians and were the best sailors of their day.

It has been worth while to go into all this about the Minoan collapse at about the time of the upper limit dates which we have arrived at in other ways. For with the disappearance of Minoan supremacy at sea, vast numbers of other people were free to ply the sea lanes and no doubt did so, bringing a proliferation of variegated contacts between cultures which the uniform Minoan sea traffic had ironed flat and featureless. Enterprising folk from almost anywhere - ethnics from mainland Greece, sophisticates from riverine Egypt, and clever Semites from Lebanon, Canaan, Palestine, all with their eyes on the main chance, could find something that would float and have a go.

All these folk suddenly let loose on the high seas brought an inevitable cross-fertilization at the cultural level, even if piracy must have increased alarmingly. There must have been a lot more drowned sailors and shipwrecked merchants, but an amazing amount of syncretism, during which our Sirius material must have leaked out into wider currency beyond the confines of Egypt and Sumer. Two millennia earlier, or even before that, the Egyptian and Sumerian cultures had shared many secrets: now these secrets were let out of Pandora's box and entered what was to become the Greek culture through synthesis in the white heat of warlike Mycenaean exploits at Troy and elsewhere. The Heroic Age was beginning, *arete* (the classical Greek ideal of *excellence* in all things) was to be forged by blood and iron in the lost *Thebaid* and the surviving *Iliad*, with the subsidiary sources of the great *Odyssey* and what remains of the *Argo* tales. Deeply imbedded like subtle dragon's teeth sunk in tough battle flesh, the bony outline of our Sirius material was to peer through the membrane of Greek epic tradition, to spring forth now in our century as the armed men of controversy. They have re-entered the field; we must face them. Rather than enter into combat, let us question these strangers about their origins. We are faced with the living fossils of a world almost entirely beyond our modern comprehension. These creatures are shaggy with the cobwebs of the centuries that preceded even

classical Greece, and came before even Hesiod and Homer. These ghosts are antique in a sense which we rarely encounter except inside the tombs of Egypt or the burials at Ur.

To continue with elucidations of the Argonaut complex, we turn now to that invaluable compendium of all that is strange and wonderful about the world of the Greeks, Robert Graves's superb work *The Greek Myths*. There we find:⁶ 'Aeaea ("wailing") is a typical death island where the familiar Death-goddess sings as she spins. The Argonautic legend places it at the head of the Adriatic Gulf; it may well be Lussin near Pola. Circe means "falcon", and she had a cemetery in Colchis, planted with willows, sacred to Hecate.' In the *Argonautica*, we recall, Jason offers a sacrifice to the goddess Hecate at Colchis at the suggestion of Medea. We shall see later that Hecate is a degenerate form of Sothis, or Sirius. But let us examine the above information from Graves. First we note that Circe, who figures so prominently in the *Argonautica*, has the meaning of 'falcon'. This brings to mind the prominent Egyptian symbolic 'falcon of Horus', which was the symbol of rising from the dead, or resurrection. The hawk or falcon of Horus presided over the Egyptian necropolis at Memphis, so it is quite obvious that it could have presided over the Egyptian necropolis at Colchis.

'Hesiod's account of Hecate shows her to have been the original Triple-goddess, supreme in Heaven, on earth, and in Tartarus; but the Hellenes emphasized her destructive powers at the expense of her creative ones ... Lion, dog, and horse (were) her heads ... the dog being the Dog-star Sirius': Robert Graves, *The Greek Myths*, 31.7.

Naturally, the Greeks would have thought of the falcon in terms of their death-goddess Hecate. There was no reason for them to preserve the masculine gender of a Horus of whom they knew nothing. But the falcon of Horus could have had a powerful effect on them as a symbol and have been transferred to a feminine figure of Greek myth. In fact, this cemetery of Circe in Colchis is almost undoubtedly an Egyptian cemetery surviving from Herodotus's Egyptian Colchians, and presided over by the falcon of Horus which in Greek was called Circe, and eventually became a female figure. The springing up from the earth of

the magically sown soldiers in the *Argonautica* must partially refer to the Egyptian soldiers buried in 'the cemetery of Circe' who were meant to rise from the dead under the auspices of the Egyptian god of resurrection, Horus, whose symbol was the falcon, or 'circe'. (Excavations could unearth the Colchian necropolis some day.) Circe lived on the island of Aea, which has the same name as the city which Jason visited in Colchis and from where Medea came. In Greek mythology, Circe is the daughter of Helios and Perse and the sister of King Aeetes, the king of Colchis. She is therefore Medea's aunt (Medea eloped with Jason). As for the 'island' of Aea, I believe it was a holm, or river-island, in the Phasis River near the city Aea. Circe's father Helios is the sun, who rose every morning from his magnificent palace near Colchis where he slept and stabled his horses overnight. And likewise the father of the Egyptian Horus was the sun, and Horus himself represents the rising sun.

The Greek word *kirke* (latinized as *cine*) revealingly means 'an unknown bird', if we consult (as we shall do from now on) Liddell and Scott's definitive Greek lexicon. In the form *kirkos* the meaning is 'a kind of hawk or falcon', 'a kind of wolf', 'a circle' (which in Latin became *circus*) or 'ring', and 'an unknown stone'. Only the proper noun *Kirke* has the specific meaning of Circe the Enchantress, although the same word in general is 'an unknown bird'. How appropriate a reaction for the Greeks to the falcon of Horus - a bird-symbol unknown to them. But in trying to be more precise they make *kirkos* 'a kind of hawk or falcon', as that is obviously what it is from its appearance, though its especial symbolic value makes the Greeks doubt precisely what the Egyptians intended. It looked like a kind of hawk or falcon but the Greeks weren't prepared to insist on exactly what species -because it was an Egyptian, not a Greek, idea.

On a point such as this we must 'take advice' as from a lawyer. It is not sufficient merely to cite Liddell and Scott's lexicon. For this subject we turn to D'Arcy Thompson's definitive source-book *A Glossary of Greek Birds?* Under the entry there for *kirkos* we read: 'A poetic and mystical name for a Hawk: the sacred Hawk of Apollo; in the main an astronomical, perhaps solar, emblem. ... In Homer, the bird of Apollo ... *Od.* xv. 525.... The bird is not identifiable as a

separate species, and is so recognized by Scaliger and others. Neither the brief note as to its size in a corrupt passage of the ninth book of the History of Animals, nor the mystical references to its alleged hostilities and attributes in Aristotle, Aelian, and Phile, are sufficient to prove that the name indicated at any time a certain particular species. The word is poetical.. . The chief allusions ... are obviously mystical, though the underlying symbolism ... is not decipherable.'

Under another entry, for *Hierax*, Thompson gives some further interesting information. The word *hierax* is a generic term for all hawks. It too seems to partake of overtones of Horus, as Thompson specifically notes when he refers to the 'Worship of Hawks in Egypt', citing Herodotus and Aelian, and says: 'In the Rig-Veda the sun is frequently compared to a hawk, hovering in the air.... Their heart is eaten, to obtain prophetic powers, Porph. *De Abst.* ii. 48.® ... The

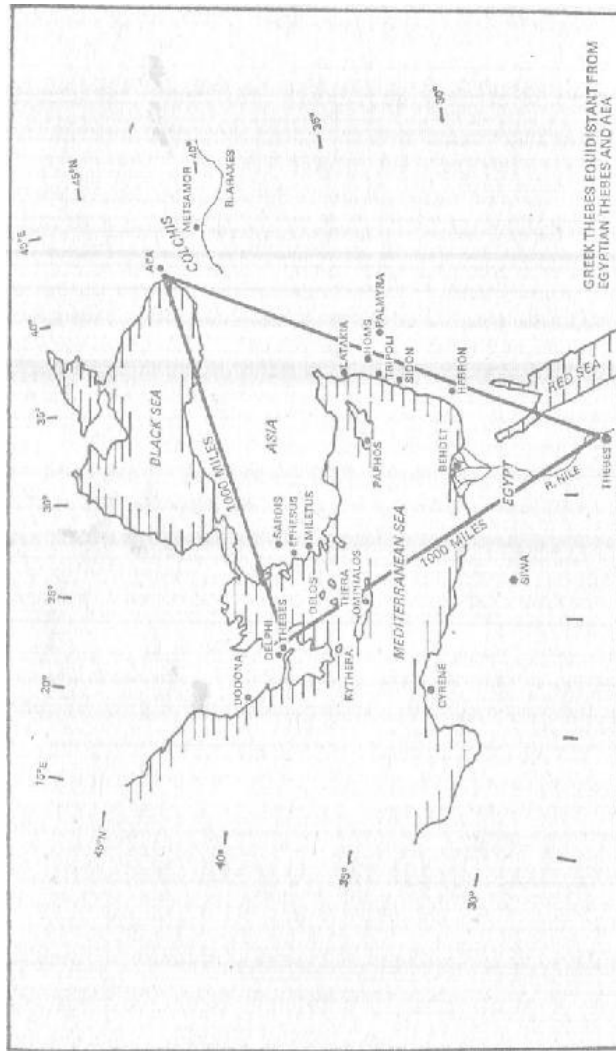


Figure 14 144

Hawk entered in Egypt into innumerable hieroglyphics ... (as) Horus and Hat-Hor ...

A further connection of Circe with the Sirius complex lies in the fact⁹ that the isla.id of Circe was the place where Orion met his death. Orion as a constellation was identified (as Sah) with Osiris, the husband of Isis, who was identified, of course, with Sirius.

The public furore in 1973 over the painting by Titian, *The Death of Actaeon*,

will have reminded British art lovers of the background to the myth which the famous painting portrays. Actaeon happened to see the goddess Artemis (known to the Romans by her Latin name of Diana) of the silver bow bathing naked. Artemis then hunted him down, with fifty hounds, transformed him into a stag, and killed him with her bow (not only are hounds connected with the Dog Star, but the bow is a familiar symbol connected also with Sirius, which was so often known in ancient times also as the Bow Star). This scene is portrayed in Plate 12, which shows an ancient Greek vase painting from approximately 470 B.C. of Artemis and the hounds slaying Actaeon. Not only were the hounds of Hades who chased Actaeon fifty in number, but Robert Graves tells us 'Actaeon was, it seems, a sacred king of the pre-Hellenic stag cult, torn to pieces at the end of his reign of fifty months, namely half a Great Year ...'¹⁰ Note the application of the number 'fifty' here to a period of time. The orbit of Sirius B around Sirius A is fifty years; the reign of a sacred stag-king was fifty months. We know how often in ancient traditions the numerical quantity of time periods remains stable while their quality (as individual durations) varies. The classic examples are in the Bible, where the seven days of creation refer to seven aeons, and the 'years' of life of the Hebrew patriarchs such as Methusaleh are not correctly interpreted as solar *years* but as lunar *months* or 'lunar years' a month long (since by late times the area of the Near East which had by then produced the people known as Hebrews had succumbed to a lunar calendrical craze - literally 'moonstruck' - and everything was a lunar rather than a solar period of time to those people in that area).

Note further the reference to a 'Great Year' of twice fifty months, consisting of two reigns. This would be one hundred months. And it should not surprise us to learn now that the name of the Greek goddess Hecate literally means in Greek 'one hundred'. The Dogon tribe often describe the 50-year orbital period of Sirius B by saying: 'The period of the orbit is counted double, that is, one hundred years, because ... (of) the principle of twin-ness' (see Chapter 1). Here we have the same custom in operation among the Greeks, of 'twinning'

their sacred durations for $50 \times 2 = 100$. Hecate ('one hundred') unites them.

Perhaps something of the true meaning of the myths is now becoming evident.

The ancient peoples were not concealing information from us out of spite. Their purpose in disguising their secrets was to see that those secrets could survive. In fact, so successful were the ancient Egyptians in accomplishing their purpose, that the Greeks often preserve earlier Egyptian secrets in total ignorance of their true meaning, retaining only through an innate conservatism certain peculiar archaic details which we now find to be so important. Not only are the stories mythical and symbolical in that they are not meant to be taken at face value, but they even involve 'characters' and 'events' which have a strictly numerical significance. But this should have been quite obvious to the reader since we began to study the Anunnaki. It is, admittedly, difficult for those of us who have been brought up in our strictly literal civilization, where there is no such thing as a hidden meaning and everything is on the surface, to think in such a way as to understand the ancient myths. It was, after all, only a century ago that supposedly intelligent people were maintaining that the Earth was created in 4004 B.C., on the basis of what the Bible was reputed to have said! And it is only half a century ago that the courts of Tennessee in the famous Scopes trial decided that the theory of evolution was not only unholy but illegal and could not be taught in the schools. We mistakenly assume that because we have superlative technology and science we must also be extremely civilized and come from a subtle background of sophisticated thinkers. But this is all a base illusion.

In fact, we are on a low rung of the ladder of evolutionary intelligence, and in many ways (such as ethics and aspirations to excellence) we have gone backward since those early mutants in our paltry intellectual history on this planet, Confucius, Socrates, the Buddha, and the others of whom every reader may substitute his own favourites.

But this book is not meant to be a sermon on the evils of a vacuous civilization. We are meant to be examining the names of some of the principal characters of the *Argonautica*, and it is best that we pretend to ourselves that we are rational creatures and supremely moral, and turn back to the subject again.

Now we have seen that Actaeon was associated with Minyan Orchomenos, with fifty hounds of Hades, and with a reign of fifty months. The connections go even further. From Pausanius (34, 4) we learn that on Mount Laphystion is the

place described thus: 'Higher up (from the spot where the ram with the golden fleece leapt into the air and took off) is Fire-eyed Hercules where the Boeotians say Hercules came up with the dog of Hades.' Now, this 'dog of Hades' is Cerberus, who originally had fifty heads! (Later, the simplification of three heads, as for Hecate who was also of Hades, was adopted for Cerberus, when, fifty must have seemed to make no sense and was probably too difficult to paint on vases. But of course three is significant too. The Egyptians portrayed three goddesses in the Sothis-boat: Sothis, Anukis, and Satis.) Graves informs us¹¹ that, 'Cerberus was, at first, fifty-headed, like the spectral pack that destroyed Actaeon (see 22.1); but afterwards three-headed, like his mistress Hecate (see 134.1).' (The three-headed Hecate is the three Sothis-goddesses blended in one and is an underworld counterpart, just as with the Sumerian 'Anunnaki of the underworld'.) What of the fleece itself? There are obvious connections of the golden fleece and Colchis with the common golden-yellow dye which comes from saffron (*crocus sativus*). The crocus with its saffron is even today confused with 'meadow saffron' (*colchicum*) which takes its name, obviously, from Colchis, which was its chief area of production. The *colchicum* plant which somewhat resembles the crocus in its flowering stage was terribly important to the ancient world. It was the only known medicine against the disease of gout (and indeed still is). It is known to have been used to treat gout in ancient Egypt and all over the ancient Mediterranean. As Colchis was the place to find *colchicum* that may explain why the Egyptians first settled there!

It is probable that the crocus and ordinary saffron was present in Colchis in abundance, along with the false or meadow saffron, *colchicum*, and that the two became as confused with each other in ancient times as they are today. Indeed, it is only modern botany which proclaims a difference between the two to the extent that we no longer confuse them officially. As real saffron produced a much valued dye, it is not surprising that a golden fleece dyed golden yellow by saffron dye would be said to exist in Colchis! And indeed, Medea's famous herbal knowledge was well suited to Colchis, which produced the only cure for one of antiquity's most dreaded diseases, a disease which causes terrific pain and discomfort and could only be relieved by the magic herb from the mysterious distant land of Colchis.

Richard Allen¹² discusses Aries (the ram) and says that ‘Miss Gierke says that the (Egyptian stellar ram’s) stars were called the Fleece.’ He adds that the god Zeus-Amen (Ammon)-Jupiter ‘assumed the Ram’s form when all the inhabitants of Olympus fled into Egypt from the giants led by Typhon’. And in this discussion of Aries, Allen mentions ‘some of its titles at a different date being applied to Capella of Auriga’.

This is the sort of process we shall encounter again and again - titles and descriptions of stars being applied to neighbouring or similar stars as the original traditions become confused. It is particularly evident in the application of the description of ‘heavy’ or ‘weight’ to different stars associated somehow with Sirius, as the original object to which this description was meant to apply, Sirius B, was not visible and so tradition, being conservative, kept the description and applied it to other stars related to Sirius which could actually be seen. As with numerical traditions like that of ‘fifty’, when the true significance was forgotten, the symbol or concept was merely given a new, impromptu explanation.

As the fleece was a solar symbol, it is just as well that we look at the concept of Horus once again. Horus in Egyptian is Heru. And from Wallis Budge we learn that Heru is ‘the ancient name of the Sun-god’.¹³ The word *heru* also has the meaning of ‘face’.¹⁴ But let us consider the following: Heru (Horus) and his hawk/falcon presided over the Colchian cemetery and gave the name to Circe (which means ‘hawk/falcon’) who was Medea’s aunt. The Greek sun-god Helios was said to stable his horses at Colchis and have a magnificent palace there, from which he arose every morning. Also Colchis was the place of residence of the solar goden fleece.

Now, we recall that in Egyptian the letter ‘1’ and the letter ‘r’ are entirely interchangeable and have the same hieroglyph. Consequently, Heru could just as reliably be Helu. If one takes Helu and puts a Greek ending on it one gets Helios! And the same word means the sun-god in both the Egyptian religion (early) and the Greek religion (early). In both lands the name was eventually superseded, in Greece by Apollo, for instance. So here we have a further connection between the Greek tradition as centring round Colchis and the Egyptian tradition as settled there, only this time the evidence is linguistic.

It is interesting to note in the account of the word Helios as given by Liddell and Scott, Homer used the term in reference to ‘the rising and setting, light and darkness, morning and evening’. In Egypt the precise application of Horus as sun-god was in his activity as rising and setting. He was the child who was born afresh each morning (and to the Greeks Helios was born afresh every morning at Colchis). Homer has thus used the Aew-derived Helios in precisely the manner which we might have expected of an Egyptian, rather than a Greek, poet.

The reader is by now presumably immune to shock at the endless ‘surprises’ which arise in the course of this enquiry. Hence he will no doubt be prepared to learn that if we shorten the ‘e’ (from eta to epsilon) in Greek, we have the *heru*—derived word (which has dropped the aspirate, probably in connection with the shortening of the vowel) *erion*, which means - ‘woollen fleece’!

There is a possibility that Herakles (‘the glory of Hera’), the original captain of the *Argo* according to Graves, and his protectress the goddess Hera (wife to Zeus and Queen of the gods) are derived from *heru* and they are known to be related to the word Seirios which gave us Sirius and the Sanskrit *svar*, *suryas*, etc. In Sanskrit *Sura* means ‘hero’, indicating that these words may relate also. Liddell and Scott believe this complex of words to be separate from the Helios-complex, but their opinion is only an opinion. *Surana* means ‘fiery’, just as Seiros can in the sense of ‘scorching’ (due to the supposed ‘scorching’ of the Dog Star, etc.).

We find that the Greek word for a woollen fleece, *erion*, is related to the Egyptian word for Horus, the Greek word for sun, etc., etc. So much for the puzzling nature of that now moot question: Why a fleece? Back to sacred puns again, which besiege us endlessly.

Let us not forget the Sumerians. Let us look again at that list of the fifty names of Marduk. One of them is the name Nebiru. It is commonly taken to be the name of the planet Jupiter, but there is confusion there, and the word is discussed in *Hamlet’s Mill* and many other places as one of the infuriating Sumerian

words which we would like to understand. Where did it come from? What does it mean? Why is it one of the fifty names?

Immediately after this forty-ninth name, Marduk is called 'Lord of the Lands'. Then, after this supposed fiftieth name comes another name, namely Ea (Enki). Then Marduk is described as being of fifty names. It seems not to make perfect sense, since he has just been given fifty-one names. One way in which to make it sensible is to treat 'Lord of the Lands' as a synonym of Nebiru. If we do this, then Ea is the fiftieth name and everything is all right.

Now, let us look at the Egyptian language once again. We find that the word *Neb* is extremely common and is used in many combinations and means 'Lord'. Without further ado, let me make clear that I believe the Sumerian Nebiru to be derived from the Egyptian Neb-Heru. If we treat Heru in its older Egyptian sense as the sun, then the descriptions of Nebiru in the Babylonian *Enuma elish* could read as a perfect description of Neb-Heru - 'the Lord the sun': 'Nebiru shall hold the crossings of heaven and earth. ... He who the midst of the Sea restlessly crosses,/Let "Crossing" be his name, who controls its midst,' etc., through overlaid with this, as with the traditional Horus, is a strictly stellar element which is behind the more obvious solar element. However, I do not wish unduly to confuse the issue by peeling off too many layers at once. Suffice it to recall the previously mentioned associations of Horus with the Sirius system and note that there is a Heru-ami-Sept-t 'Horus of Sothis' and Heru-Sept 'Horus the Dog Star' and then to note, again in association with Nebiru which is supposed to have been Jupiter, that there is in Egyptian a Heru-sba-res 'Horus, star of the south, *i.e.* Jupiter', and Heru-up-Shet, 'the planet Jupiter'; also in the *Enuma elish* Nebiru is clearly described as 'a star'. Horus also exists as Heru-ami-u which is 'a hawk-headed crocodile with a tail terminating in a dog's head'. The dog is related to Sirius. Heru-ur-shefit is a jackal form of Horus, *heru* is also the name of a sceptre and of a jackal-headed standard in the other world. A form of Horus using the common word Neb is Heru-Neb-urr-t, meaning 'Horus as possessor of the supreme crown'. Another of several is Heru-Neb-pat, meaning 'Horus, lord of men'. Heru-Neb-taui is 'Horus, Lord of the Two Lands'. Recall our synonym for Nebiru - 'Lord of the Lands'!

We are getting deeper and deeper into the legend of the golden fleece, of origins of Greek and Middle Eastern ideas in Egypt, along with key words and names, *etc.* All these centre round the curious Sirius complex. What more will we uncover? Perhaps we need a break from all these Egyptian words. There are many other aspects of our subject, and it leads us ever closer to the solution of our mystery -which is the origin of the subject.

Notes

- x. *Toward the Image of Tammuz and Other Essays*, Harvard, 1970.
2. Kramer, S. H. *History Begins at Sumer*, Doubleday Anchor Book, New York, 1959, PP-9i~4-3. *Antiquity of the Jews*, Book I, Chapter 2.
4. *Herodotus*, trans. A. de Selincourt, Book 2, 103.
5. In Pritchard, *Ancient Near Ancient Texts*, p. 8.
6. Graves, Robert, *The Greek Myths*, 2 vols., Penguin Books, London, 1969, 170.5.
7. Thompson, D'Arcy Wentworth. *A Glossary of Greek Birds*, Oxford, 1896.
8. Porphyry, *On Abstinence from Animal Food*, for those who are not familiar with the traditional abbreviations. Porphyry was an early Neoplatonist, a student

of Plotinus, who transcribed the *Enneads*. Thomas Taylor translated much of what survives of Porphyry's own writings, including *On Abstinence*, in *Select Works of Porphyry*, London, 1823.

9. Graves, op. cit., 170.6.

10. Ibid., 22.1.

11. Graves, op. cit., 31.3.

12. *Star Names*, op. cit. See entry under Aries.

13. Wallis Budge, *Hieroglyphic Vocabulary to the Theban Recension of the Book of the Dead*, London, 1911. See entry for *Her*, p. 273.

14. Ibid., p. 271.

CHAPTER FIVE

Origins of the Dogon

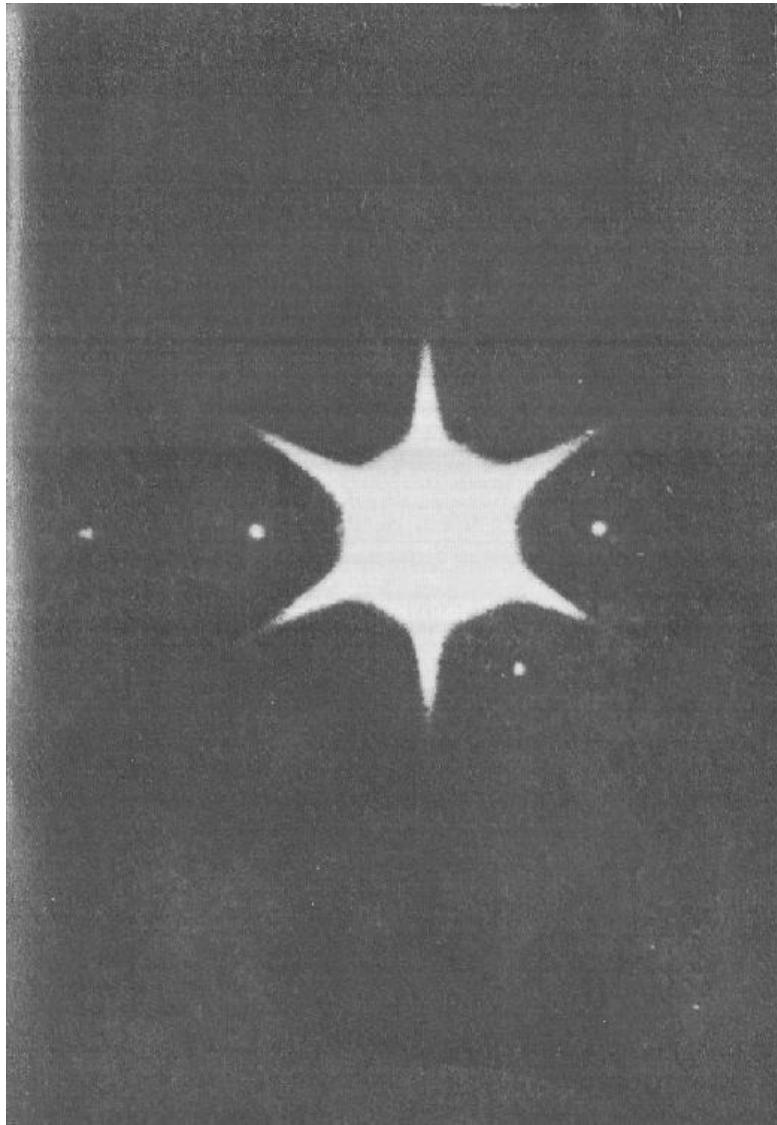
Let us now return to Hercules and the number fifty. A connection between them arises in Pausanias, in discussing a city in Boeotia, called Thespiiai ‘below Mount Helikon’:

They have a sanctuary of Herakles [Hercules] where a virgin priestess serves until she dies. They say this is because Herakles slept with all the fifty daughters of Thestios in the same night, except for one. She alone refused to mate with him. Thinking she was insulting him he sentenced her to be his virgin priestess all her life. I have also heard another legend about it: that Herakles went through all Thestios’s virgin daughters on the same night and they all bore him male children, but the youngest and the eldest bore him twins. But I am quite unable to believe that other story, that Herakles could behave so arrogantly to the daughter of a friend. Besides, even when he was on earth he used to punish arrogant outrages, particularly if they were against religion: so he would hardly have founded his own temple and set it up with a priestess like a god. But in fact this sanctuary seemed to me older than the days of Herakles son of Amphitryon, and to belong to the Idaian Daktylos called Herakles, whose sanctuaries I also discovered at Erythrai in Ionia and at Tyre. Actually even the Boiotians knew the name, since they say themselves that the sanctuary of Mykalessian Demeter has Idaian Herakles as patron.

I hope it will be noted that Pausanias had here elucidated a Middle-Eastern connection for this tale with the important city of Tyre, the site of which is off the coast of present-day Lebanon. Here, at least, we have a bit of evidence from ancient times bearing direct witness to the connections between these endless curious traditions in Greece about the fifty and their Middle-Eastern

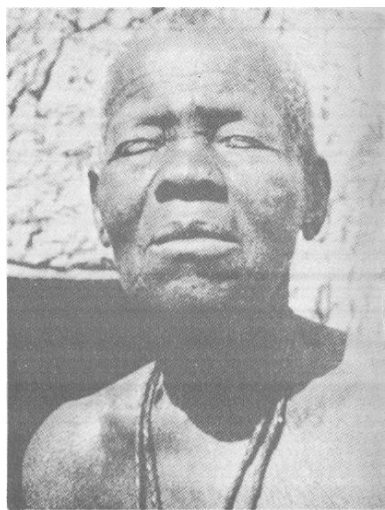
counterparts, or at least Middle-Eastern locale.

It would now be worth while for us to see what Robert Graves has to say about this tale. Graves calls Thestios by the name of Thespius

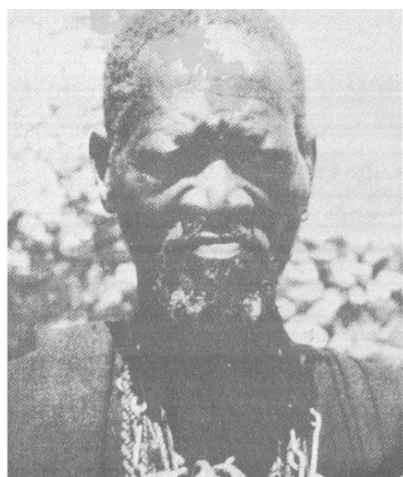


A family portrait: the first photograph ever taken (1970) of Sirius B, which is the tiny dot to the lower right of the large star, Sirius (small multiple images of Sirius itself are seen here extending off to left and right). See Notes to the Plates.

Dr Irving Lindenblad, U.S. Naval Observatory Manda D'Orosongo



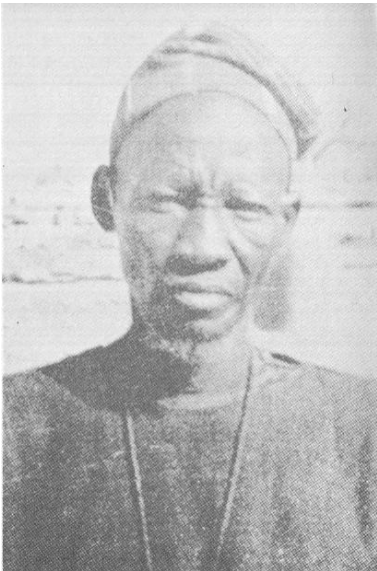
Yebene



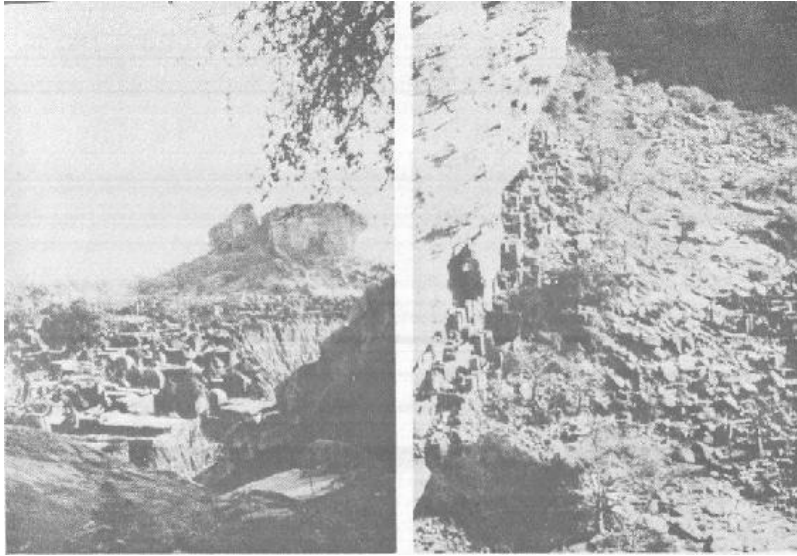
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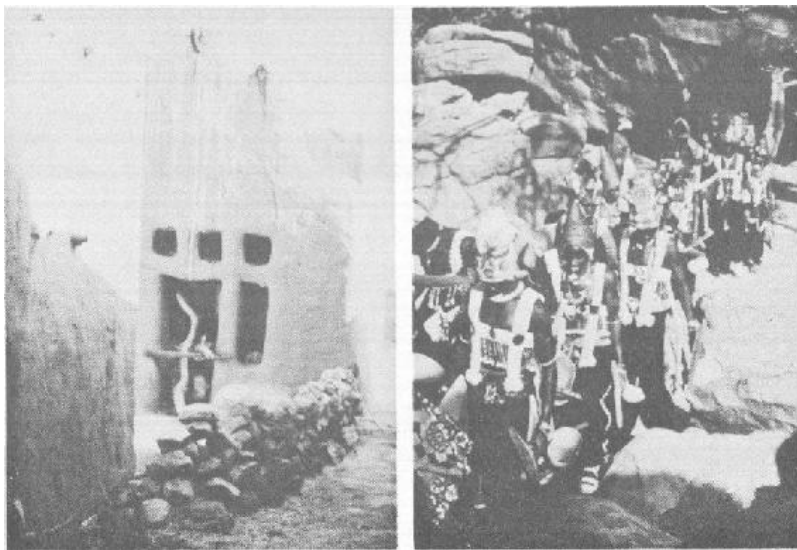
The four Dogon priests who revealed the



traditions to anthropologists.



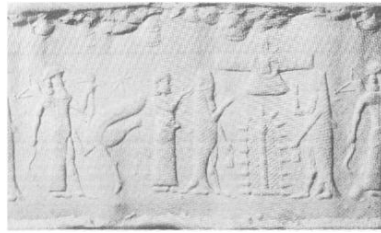
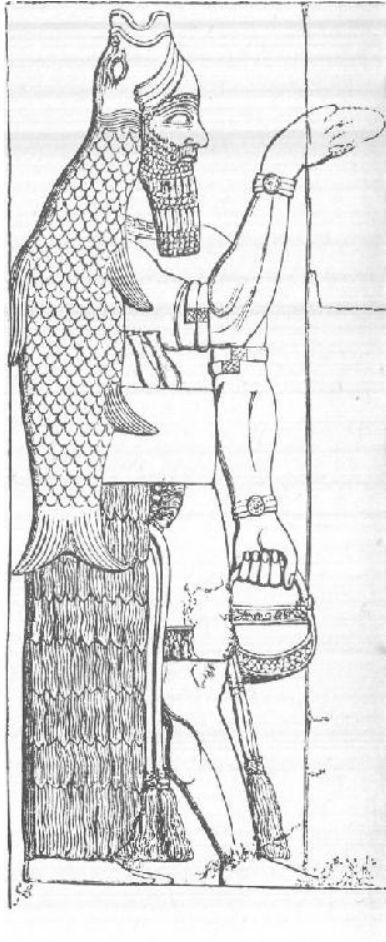
Two Dogon villages in Mali. Above left: the village of Songho. Above right: the cliff and village of Banani. *A. Costa*



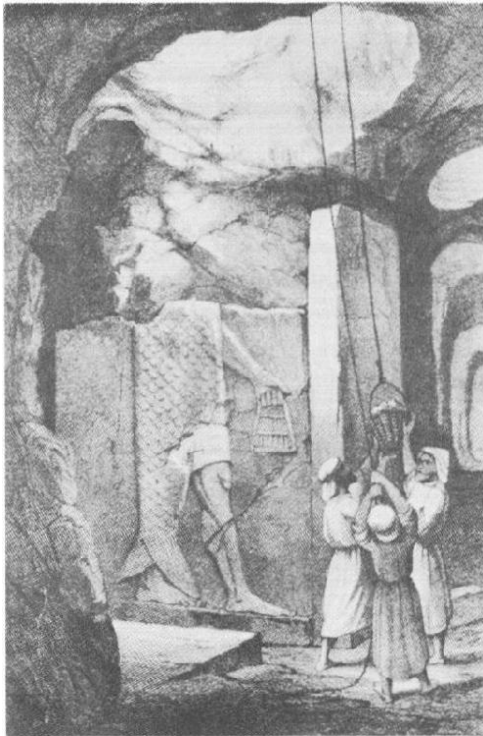
Above left: a Dogon priest's house. A libation has been offered to the gods and has dripped down the front of the house. Above right: Dogon tribal dancers in religious procession to the village of Komakan. *A. Costa* The Babylonian semidaemon Oannes, a fishtailed amphibious being from the heavens who, according to the Babylonians, founded civilization on earth. *From Nimrud*

The Egyptian goddess Isis, showing the small fishtail in her headdress.





Further representations of the amphibious heavenly being, Oannes. Two are from Assyrian cylinder-seals and one shows the remains of a giant status of Oannes found at Kouyunjik. *Staatliche Museen zu Berlin, Pierpont Morgan Library, Layard (1853).*



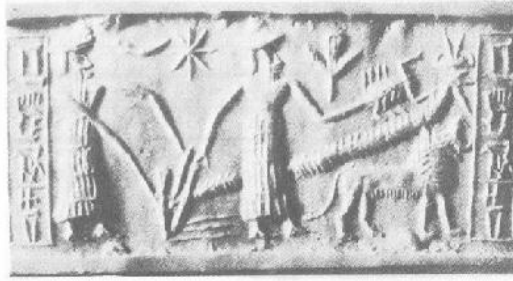
Above left: Jason, Medea, and the teeth of the dragon, from an ancient vase painting. See Notes to the Plates. *Mansell* Above right: Jason and Medea with a living fleece being transmuted alchemically into gold. See Notes to the Plates. *Michael Holford*



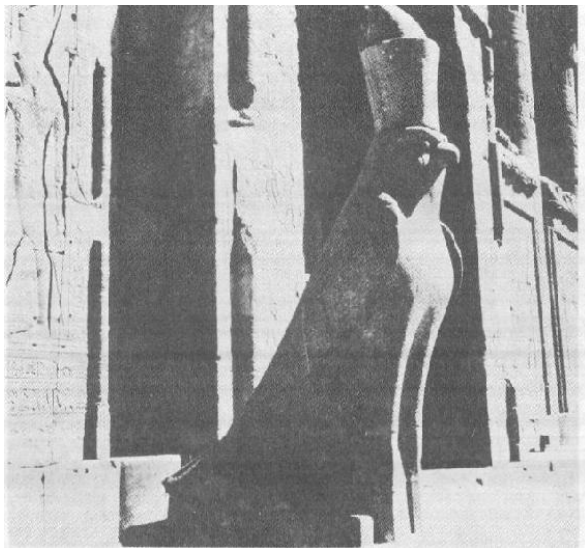
Above: Actaeon hunted down by Artemis (Diana) and the fifty hounds of hell.
Deutsche Fotothek Dresden Below: Artemis stands by as the infant Apollo, held by their mother Leto, lets fly an arrow at the Python. For both, see Notes to the Plates. *Mansell*



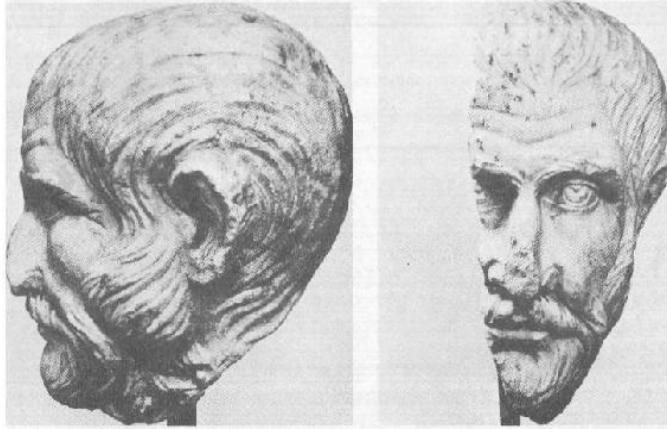
Above: an ancient representation of the construction of the ship Argo. On the left the goddess Athena bestows the oak timber of Dodona. Argus is hard at work on the prow, which will contain the oak beam. An oak tree graces the scene, with a branch pointedly missing. *Alinari* Below: an ancient Babylonian cylinder seal which may show the sowing of the serpent's/dragon's teeth. See Notes to the Plates. *Oriental Institute, University of Chicago*



Cadmus slays the serpent/dragon, which represents Sirius. He is in the position of Orion, standing on Lepus, the hare, in the sky. See Notes to the Plates.



A statue of the divine hawk of Horus, outside a temple at Edfu in Egypt. See Notes to the Plates. *Michael Holford*



Front and side views of a bust identified as that of the Greek philosopher Proclus, for whom see Appendix 1; see also Notes to the Plates. *Athens Museum* and spends some time pondering the meaning.¹ Then he tells us the following:²

King Thespius had fifty daughters by his wife Megamede [mega—*medea* ?] daughter of Arneus, as gay as any in Thespieae. Fearing that they might make unsuitable matches, he determined that every one of them should have a child by Heracles [Hercules], who was now engaged all day in hunting the lion; for Heracles lodged at Thespieae for fifty nights running. [Notice fifty applied here as a succession of *days*-, days, months, years. They can become blurred as long as *fifty* remains.] ‘You may have my eldest daughter Procris as your bedfellow,’ **Thespius** told him hospitably. But each night another of his daughters visited Heracles, until he had lain with every one. Some say, however, that he enjoyed them all in a single night.

It is interesting to note that the name Procris of the eldest daughter means ‘chosen first’. *Prokrossoi*, which is a closely related form of the same stem means, ‘ranged at regular intervals like steps’. Now, what could be a more obvious name for the eldest daughter than one with such overtones and signification if it were clearly intended, as it obviously was, to emphasize that the daughters were not meant to be thought of as individuals but as successive expressions of fifty successive periods of time - in this case, twenty-four-hour periods, or days? But the intention obviously was to highlight the sequence of fifty time periods, personified as ‘daughters’ enjoyed by our ubiquitous Hercules

who is connected in so many ways with the Sirius complex.

Graves adds :³ ‘Thespius’s fifty daughters - like the fifty Danaids, Pallantids, and Nereids, or the fifty maidens with whom the Celtic god Bran (Phoroneus) lay in a single night - must have been a college of priestesses serving the Moon-goddess, to whom the lion-pelted sacred king had access once a year during their erotic orgies around the stone phallus called Eros (‘erotic desire’). Their number corresponded with the lunations which fell between one Olympic Festival and the next.’

Here is Graves’s irrepressible moon-goddess - and here are her lunations! She carries them about with her wherever she goes. But unfortunately, Graves’s brave attempt to find a lunar rationale for the fifty is not sufficient. The Olympic Games were, as they are now, held every four years, and the Olympiads or four-year periods were understood to have commenced in 776 b.c., which is an extremely recent date compared with the extreme antiquity of ‘the fifty’ in all its myriad occurrences. For instance, there were no Olympiads in Homer’s day when ‘the tale of the *Argo* was on everybody’s lips’, and the fifty S.M.—8 153

Minyae were on their way into literary immortality in what was to become the Western world. Much more likely that a period of fifty lunations was modelled after a long-established tradition - the esoteric fifty-jwr period. Thus the fifty-month and fifty-day sequences were probably derived in emulation.

I assume that the cycle of fifty lunations which Graves mentions here is identical to his fifty-month period of the reign of a sacred king, which is supposed to be ‘half of a Great Year of a hundred months’. Can it be that fifty, as half of one hundred, is meant to represent by its reduplication the two-to-one ratio as a means of signifying the concept of the musical octave with its two-to-one ratio? The frequency of a note is doubled when it is raised an octave - hence a ratio of 2 to 1. This may be demonstrated visually on a single string and does not require the modern measurements of frequency.

Can this be why the *Argo* is supposed to be ‘whole in the sky’ (Aratos) and yet the constellation also supposed to represent only the latter half of a ship ? Can

this apparent double-talk be yet another way of signifying the two-to-one ratio?

It also seems significant that each fifty-month period is carefully specified to constitute 'one reign', even though it is only half of 'the Great Year'. Can 'one reign' be analogous to 'one orbit' and the 'Great Year' of two orbits be contrived to communicate the two-to-one harmonic ratio of the octave?

Another occurrence of fifty and a hundred together is with the three monsters born to Uranus the sky and Gaia the earth. Their names were Cottus, Briareus, and Gyges. 'From their shoulders sprang a hundred invincible arms and above these powerful limbs rose fifty heads attached to their backs." For this reason they were called the Hecatoncheires or the Centimanēs,' as we are reliably told.⁴

These monsters resemble the monster Cerberus, the hound of Hades who originally had fifty heads, but later became simplified and had only three heads - presumably for the same reason that these monsters are three in number, and also the reason that Hecate (whose pet Cerberus was, and who was a form of Isis-Sirius and whose name literally means 'one hundred') had three heads or forms, and that the boat of Sirius in ancient Egypt had three goddesses together in it. In other words, probably the same reason that the Dogon insist that there are three stars in the Sirius system. (If there is a third star, it does not produce the perturbation which had been claimed for it before the seven years' observations recently concluded by astronomer Irving Lindenblad.⁶ But a third *outer* star would not have this perturbation.) We will recall that originally Hercules is supposed to have led the expedition of the *Argo*. In the version of Apollonius Rhodios he accompanies the expedition. Well, in Graves we may read of another traditional exploit of Hercules in the Black Sea.⁶ He went 'in search of Hippolyte's girdle in the Black Sea' and 'the girdle belonged to a daughter of Briareus ("strong"), one of the Hundred-handed Ones..., who was of course a fifty-headed one as well. And note his name: Strong. The word *briaros* means 'strong', and another form is *briarotes* which means 'strength, might', and a related form *brithos* means 'weight', and *brithosyne* means 'weight, heaviness'. Where have we encountered this idea before ?

We should note that Hippolyte means simply 'letting horses loose'. And it was from Colchis that the horses of the sun were let loose every morning, for it was there that they were stabled, according to Greek tradition. There is also a really peculiar use of the word *hippopede*, which has the normal mundane meaning of 'a horse fetter', in a cosmic sease. It appears from Liddell and Scott that this word was used by the astronomer Eudoxus (the one who went to Egypt and who was contemporary with Plato) as the word for the curve described by a planet. If we examine the name Gyges, who was one of the other three monsters which included Briareus, we find its meaning has the same origins as *gygantelos*, which in English became 'gigantic', but the meaning of this word was not by any means simply 'giant'. Graves gives Gyges the meaning of 'earth-born', another concept we have come to expect in connection with our Sirius-complex of myths. Just as the stones Deukalion and his wife Pyrrha threw over their shoulders had been torn from their mother earth, Gaia, and were her bones turning into men to repopulate the earth after the flood and the voyage of the Greek ark, and just as Jason and also Cadmus sowed the teeth and they sprang up as 'earth-born men', so we find that Gyges is also 'earth-born'.

And just as Gilgamesh sought *strength* from the earth when 'his teeth shook' in the earth, so we discover that *gygas* means 'mighty' or 'strong', and is also used in Hesiod to refer to 'the sons of Gaia (Earth)', which is as specific as we could wish, for it gives an undeniable and conscious connection between 'the children of Gaia' of Deukalion, 'the offspring of Gaia' of the Colchian teeth, and 'the sons of Gaia' who were a race of giants, and Gyges, whose mother was Gaia.

And we are not to forget that Gyges, like Briareus, can mean 'strength' and 'might', though with the particular shade of meaning added that it is strength and might drawn from the earth, which could be one way of describing a super-dense body of degenerate matter. After all, super-dense matter is 'strong earth'. We must also remember that Gyges has fifty heads.

As for the name Cottus, the third of the three monsters, Graves tells us that it is not Greek. Graves says (3, 1): 'Cottus was the eponymous [name-giving] ancestor of the Cottians who worshipped the orgiastic Cotytto, and spread her

worship from Thrace throughout Northwestern Europe. These tribes are described as “hundred-handed”, perhaps because their priestesses were organized in colleges of fifty, like the Danaids and Nereids; perhaps because the men were organized in war-bands of one hundred, like the early Romans.’

The Cottians might possibly derive their name from an Egyptian word. Perhaps it was *qefi*, which means ‘oarsmen’ and has been applied to ‘divine oarsmen’. With a different determinative and when not applied to a man, the word means ‘orbit’, ‘revolution’, ‘to go around’.

There was also an Egyptian precedent for applying the same name to a god. Qeti is ‘a god of the abyss’, and a reduplicated version of the name which repeats the ‘t’ as Cotytto does is Qetqet, who is significantly one of the thirty-six decans. It may be, then, that Cottus is of Egyptian origin and originally applies to the orbit of Sirius B, and in Egyptian times the name had all its applications to Sirius-related concepts including both oarsmen and an orbit, two ideas which I have frequently connected before. Here in Egyptian we find an orbit called by a name which applies equally well to divine oarsmen. And the word survives in the fifty-headed Cottus! Fifty oarsmen, fifty years in the orbit, fifty heads to the Sirius-monster.

I am indebted to my friend Michael Scott, who once rowed at Oxford, for the fine suggestion that there could hardly be a better analogy of any symbol with its intended meaning of ‘a specific interval both of space and time’ than the oar-stroke. Rowing is a precisely paced discipline when practised in earnest, as it would certainly have been in ancient times when it was one of the two principal means of navigation at sea, and the only reliable one if the winds failed, as they so often did. It also represents a self-reliance which illustrates the self-impelled motion of a body in space which is orbiting (or what seems to be self-impelled).

I should point out here that the earliest name for the figure known to us as Hercules was, according to Robert Graves in *The Greek Myths* (132. h.), none other than Briareus. And we also have learned that the earliest form of Jason was Hercules (whose earliest form was Briareus). We thus find that Briareus, with his fifty heads, was the earliest captain of the fifty-oared *Argo*. Briareus, whose

name means 'weight'.

And whose brother's name means both 'oarsman' and 'orbit'.

Apart from the three monsters each with fifty heads, Gaia also gave birth to Garamas, who was not only earth-born, but who 'rose from the plain' like the earth-born men of Colchis. Graves says:⁷ 'The Libyans, however, claim that Garamas was born before the Hundred-handed Ones and that, when he rose from the plain, he offered Mother Earth (Gaia) a sacrifice of the sweet acorn.' It is in the footnote of Graves⁸ that we learn something of really immense significance to us: 'Garamas is the eponymous ancestor of the Libyan Garamantians who occupied the Oasis of Djado [sic], south of the Fezzan, and were conquered by the Roman General Balbus in 19 b.c. They are said to have been of Cushite-Berber stock, and in the second century a.d. were subdued by the matrilineal Lemta Berbers. Later they fused with the Negro aboriginals on the south bank of the Upper Niger, and adopted their language. They survive today in a single village under the name of Koromantse.'

I need hardly point out to the alert reader that the southern bank of the Upper Niger is the home of the Dogon! What should be investigated on the spot is the relations which subsist between this sad shaggy remnant of the Garamantians and the surrounding Dogon and other tribes. Also, the villagers of Koromantse might be discovered to possess the Sirius lore themselves.

On the most detailed French map of this area there is a village called Korienze only sixty miles from Bandiagara and in the heart of Dogon country. It is on the south bank of the Upper Niger and is presumably the place Graves means.

In line with this important discovery I should point out that Herodotus says in Book Two (103 and 106): 'It is undoubtedly a fact that the Colchians are of Egyptian descent... the Colchians, the Egyptians, and the Ethiopians are the only races which from ancient times have practised circumcision. The Phoenicians and the Syrians of Palestine themselves admit that they adopted the practice from Egypt, and the Syrians who live near the rivers Thermodon and Parthenius, as well as their neighbours the Macronians, say that they learnt it only a short

time ago from the Colchians. No other nations use circumcision, and all these are without doubt following the Egyptian lead.'

Circumcision is fundamental to Dogon culture and forms the central part of the ritual of the Sigui which the Dogon hold every sixty years -and though I have pointed all this out earlier, it does no harm to repeat it.

We shall recall if we read the *Argonautica* that the Argonauts were blown off course to Libya, where they were stranded for some time.

In his book *Herodotean Inquiries* Seth Benardete speaks of the Garamantes to whom he gives an alternative name, the Gamphasantes. They are described in Herodotus, Book Four (after 178) as inhabitants of 'Further inland to the southward, in the part of Libya where wild beasts are found'. At 179 Herodotus connects Jason and the Argonauts' visit to Libya with the eventual foundation in Libya 'of a hundred Grecian cities'. Benardete's comments in his book connect the *Argo's* visit to Libya and the Libyan city of Cyrene: Herodotus first indicates how closely Libya, Egypt, Scythia, and Greece are joined. The ancestors of Cyrene's founders were descendants of Jason's companions, who sailed to Colchis, originally an Egyptian colony on the eastern shore of the Black Sea; and the third generation from these Argonauts were expelled from Lemnos by the very same Pelasgians who later abducted Athenian women from Brauron, where a cult of Artemis-Iphigeneia was practised, just as among the Taurians in the Crimea; and Jason is said to have been carried off course to Libya. Cyrene is the melting-pot of Egyptian, Libyan, and Scythian things. Its founding suggests the Scythian account of their origins. They said that golden objects fell from heaven, which flashed fire when the two older brothers of Kolaxais approached them, but Kolaxais himself was able to take them home. To these celestial *poiemata* there here correspond the oracular verses of Delphi which, in both the Theban and Cyrenaic versions, prompted the sending of a colony to Libya.

Robert Graves got his information¹⁰ on the Garamantians going to the Upper Niger by way of Libya from a series of books by Eva Meyrowitz, an anthropologist who spent many years studying the Akan tribe of Ghana, directly

south of the Dogon.¹¹ Graves paraphrases her books: 'The Akan people result from an ancient southward emigration of Libyo-Berbers - cousins to the pre-Hellenic population of Greece - from the Sahara desert oases (see 3, 3) and their intermarriage at Timbuctoo with Niger River Negroes.' Timbuctoo - or Timbuktu - is the nearest big city to the Dogon. Graves continues: 'In the eleventh century a.d. they moved still further south to what is now Ghana.' I might point out that the path of migration from Timbuktu to Ghana goes straight through the country of the Dogon, whose territory is directly south of Timbuktu. So it is quite clear by now that peoples intimately connected with the Sirius tradition came from Greece to Libya and thence south to the Libyan oases of the Sahara, thence further southwest past the Sahara to Timbuktu and the region of the Dogon, where they mingled with Negroes of the Dogon

A detailed map of the Sahara Desert and surrounding regions, illustrating migration routes. The map includes the following features:

- Legend:**
 - ROUTE OF GARAMANTES/DOGON MIGRATION:** Indicated by a solid line with cross-ticks.
 - FURTHER MIGRATIONS OF THE AKAN TRIBE OF GHANA:** Indicated by a dashed line.
 - TRIPOLI/LAKE CHAD CARAVAN ROUTE:** Indicated by a dotted line.
- Geographical Labels:**
 - Regions:** NOROCCO, TUNISIA, ALGERIA, LIBYA, SAHARA, MAURITANIA, SENEGAL, SIERRA LEONE, LIBERIA, IVORY COAST, GHANA, CAMEROONS, NIGERIA, SUDAN.
 - Cities/Towns:** TUNIS, TRIPOLI, CYRENE, GARAMANTES, FOGGAR, BMURZUK, TIENZI, GADDO, BILMA, AGADES, AIR, NIHER, HADA, TINIMIN, BOUAD, BOUENNE, BHANA.
 - Water Bodies:** RIO DE ORO, L. TRITONIS, L. CHAD, L. KADUNA.
 - Deserts:** LIBYAN DESERT.
 - Rivers:** R. NIGER, R. BENUE, R. CHAD, R. KADUNA.
 - Other:** Igoudi, Tugf, Toubili, Aaggar, Quodol.
- Migration Routes:**
 - The **Garamantes/Dogon Migration** route starts near Tripoli, passes through Garamantes, Foggar, BMurzuk, Tienzi, Gaddo, Bilma, Agades, Air, Niher, and ends near Hada, Tinimin, Bouad, and Bouenne.
 - The **Akan Tribe** route starts near Hada, Tinimin, Bouad, and Bouenne, passing through Sierra Leone, Ivory Coast, and Ghana.
 - The **Tripoli/Lake Chad Caravan Route** starts near Tripoli, passes through Garamantes, Foggar, BMurzuk, Tienzi, Gaddo, Bilma, Agades, Air, Niher, and ends near Lake Chad.

Figure 16a 160

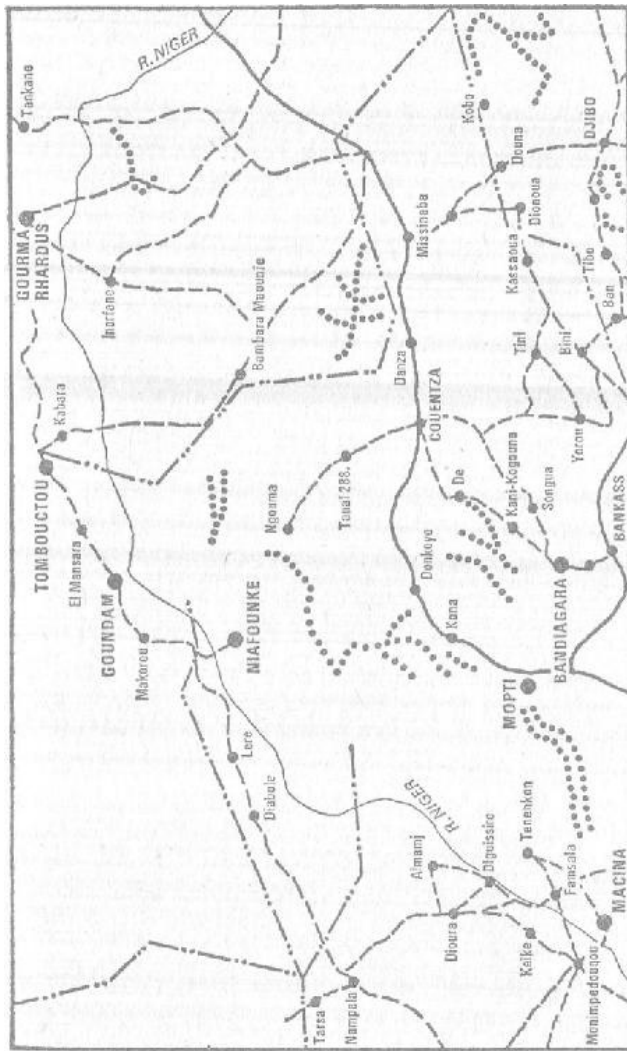


Figure 16b. Enlargement of the Dogon area south of Timbuctu. 161

descended from the Mediterranean peoples privy to the Sirius complex!

Later, I shall mention a bit more about the Pelasgians, who lived in Arcadia and, so Herodotus informs us, were not conquered by the Dorian invaders of Greece in pre-classical times. They have been among the main continuers of the Sirius tradition as, apparently, have the people they displaced by force. But I mention them now to give more relevant information for this Libyan connection. Graves says:¹³ 'According to the Pelasgians, the goddess Athene was born beside Lake Tritonis in Libya', and: 'Plato identified Athene, patroness of Athens, with the Libyan goddess Neith ... Neith had a temple at Sais (in Egypt),

where Solon was treated well merely because he was an Athenian . . . Herodotus writes (IV, 189): “Athene’s garments and aegis were borrowed by the Greeks from the Libyan women . . .” . . . Ethiopian girls still wear this costume . . . Herodotus adds here that the loud cries of triumph, *olulu, ololu*, uttered in honour of Athene above (*Iliad*, vi. 297-301) were of Libyan origin. *Tritone* means “the third queen”.’ Again the reference to the three goddesses. And in Libya was the shrine of Ammon equivalent to the Dodona oracle of Zeus. And Athene, the daughter of Zeus, is equivalently the daughter of Ammon, who is identified with Zeus.

Athene was also known as Pallas Athene, for reasons given in Graves. He adds that ‘the third Pallas’ was father of ‘the fifty Pallantids, Theseus’s enemies (see 97.g and 99.a), who seem to have been originally fighting priestesses of Athene’. Once again the fifty.

Graves gives some interesting information:¹⁴ ‘Pottery finds suggest a Libyan immigration into Crete as early as 4000 b.c.; and a large number of goddess-worshipping Libyan refugees from the Western Delta seem to have arrived there when Upper and Lower Egypt were forcibly united under the First Dynasty about the year 3000 b.c. The First Minoan Age began soon afterwards, and Cretan culture spread to Thrace and Early Helladic Greece.’

While again on the subject of the fifty, I want to note more information concerning Cerberus, the fifty-headed hound of Hades. Graves says:¹⁵ ‘Echidne bore a dreadful brood to Typhon: namely, Cerberus . . .’, *etc.* Recall that Typhon was identified with Python¹⁶ in the Homeric *Hymn to Apollo* and elsewhere; Python was the particular monster, slain by Apollo according to legend, whose rotting corpse lay directly under the oracle of Delphi.

Graves continues:¹⁷ ‘Cerberus, associated by the Dorians with the dog-headed Egyptian god Anubis who conducted souls to the Underworld, seems to have originally been the Death-goddess Hecate, or Hecabe; she was portrayed as a bitch because dogs eat corpse flesh and howl at the moon... . Orthrus, who

fathered [various creatures] on Echidne was Sirius, the Dog-star, which inaugurated the Athenian New Year. He had two heads, like Janus, because the reformed year at Athens had two seasons, not three.' The three heads of Hecate, of Cerberus in his simplified form, etc., possibly all represent the old, original year which had three seasons and originated in Egypt with the three seasons of their (1) inundation, (2) sowing, (3) harvesting, which were traditional there. But it seems unlikely. For why would the three goddesses sail in their Sirius boat in Egyptian representations which have absolutely nothing to do with a calendar? In short, the three goddesses and the three-headedness always to do with Sirius are not calendrical at all. But by the extremely late times of Athens, calendrical explanations may have become fashionable for what could not otherwise be explained.

In the above passages I hope the reader will note the specific information that connects Anubis (which much earlier I identified on altogether separate grounds with the orbit of Sirius B) with the Greek version of Anubis, Cerberus, with his fifty heads. In the Egyptian tradition I hadn't found any specific connection between Anubis and fifty. It is true that we have found the Egyptian word *qeti* means both 'oarsman' and 'orbit', and as there were always fifty oarsmen in the Sirius-related boats, both in Greek and Sumerian saga, we were on our way to an identification on solid grounds. But here at last a specific connection has come to light, and would seem to be a splendid confirmation of my identification! And furthermore, we see that the dog Orthrus who was the brother of Cerberus, was specifically identified with Sirius. We thus have found in the Mediterranean world all the elements of the description of the Sirius system which were possessed by the Dogon. And we have also traced the Mediterranean Sirius lore to the Dogon by way of Libya, then the Saharan oases, then Timbuktu, and finally the south bank of the Upper Niger and the Dogon region. Thus, through thousands of miles and thousands of years, we have discovered the source of that strange tradition still intact among a tribe deep in 'darkest Africa'. But there is more to be learnt. We must examine the Mediterranean tradition more closely, and particularly its oldest Egyptian origins in the shadowy pre-dynastic world, apparently from the time of Naqada II onwards.

The father of Orthrus the Sirius-dog and his brother Cerberus the fifty-headed dog was the monster Typhon whom we mentioned a moment ago. And it is

worth while for us to see what Liddell and Scott's *Greek Lexicon* has to say about the meaning of the name Typhon and also related forms of this word.

One meaning of *Typhon*, curiously enough, is 'a kind of comet' - in other words, a moving star! Another form is either Typhoeus or Typhos and specifically refers to the youngest son of Gaia, who was mother also of the three fifty-headed monsters and of Garamas. *Typhos* means 'smoke, vapour', and also 'conceit, vanity (because it clouds or darkens a man's intellect)'. *Typhlos* means 'blind' and specifically 'in the sense of misty, darkened'. The verb *Typhloo* means 'to blind, make blind' or 'to blind, baffle'. It also means 'to wrap in smoke'.

Since Typhon is specifically said to be the father of Sirius (Orthrus) and one of its unexplained definitions is a description of a moving star, and its son has fifty heads, I take all the references to obscurity and invisibility to mean that Typhon represents Sirius B which is the dark companion of Sirius and is invisible to us. In other words, we are *typhlos* (blind) to Typhon because it seems as if it were obscured or *typhloo* A by *typhos* (vapour, smoke), and we are baffled, blind (*typhlos*) in the sense of the subject being darkened {*typhloo*).

A possible origin of the word Typhon may be the Egyptian word *tephit* or *teph-t*, both of which have the meaning of 'cave, cavern, hole in the ground'. This Egyptian word describes perfectly the chasm at Delphi in which Python was supposed to lie rotting, his corpse giving off the fumes out of the earth. And, as we have seen, Python was equated with Typhon in early times.

If we take the Egyptian word *tep* we discover that it means 'mouth' and in the form *tep ra* it means 'mouth of the god' literally, but in fact the real meaning of this is 'divine oracle'. *Tep* is an unaspirated *teph*. Hence the *tep* of Delphi has a *tephit*, or cavernous abyss beneath it. Later I shall consider the Egyptian word *tep* in its further ramifications. But for the moment it is sufficient to see that

Typhon almost certainly originates from the Egyptian word describing a cavern or hole in the earth, as the Egyptians founded the *tep* or oracle at Delphi and naturally used their own word to describe the cavern. As Delphi passed into Greek culture and the Egyptians became forgotten in all but vague legends such as the famous visit of the Egyptian Canopic Herakles' to Delphi, the original word to describe Delphi's cavern would have been retained through the natural conservative inclinations of religious organizations who retain antique words and language for notoriously long periods of time, forgetting their origins. Hence a Greek who had no knowledge of Egyptian culture or that it had ever penetrated to his homeland in earlier days would nevertheless call the cavern at Delphi which produced the sulphurous fumes the den of Typhon after its original Egyptian designation of *tephit*. It has been noted by people other than myself and with greater knowledge that the Sumerian word for cavern, *abzu*, survived in Greek as *abyssos*, leading to our English 'abyss'.

The fumes arising from the Delphic cavern obviously gave rise to the usage of forms of the word for 'obscuring with smoke, dark', *etc.* And the fact that the personified Typhon became closely associated with Sirius was obviously due to the fact that this word which had entered Greek usage and been extended to considerations of 'darkness, obscurity', was useful in the traditional Sirius lore as adopted in Greece. The other meanings for the word then developed from there, except for the obvious popular usages, such as applying the word to a description of 'vanity' because vanity clouds a man's intellect - a really superb extension of the meaning for use in poetic and common expression.

It is probably considerations such as the Typhonic in the sense of Sirius B's association with darkness and obscurity, and hence with cavernous blackness, that some of the Sirius-related divinities were reputed to live in the dark underworld in later times. The prototype of these is quite specifically Anubis, the embalmer of mummies. Anubis was not originally meant to be a death god *per se* and his association with mummies and the underworld has been previously explained. Egyptian mummies were, as I have said, embalmed over a period of seventy days, to correspond with the number of days each year when the star Sirius was 'in the Duat, or Underworld', and was not visible in the night sky.

Hence the seventy-day 'death' of Sirius each year was the fundamental and earliest underworld aspect of the Sirius lore. Of course, Anubis, as the expression of the orbit of Sirius B, was invisible all the time, and not only for seventy days a year. Hence the permanent Typhonic darkness could be even further extended in later lore and a heightened sense of the importance of the underworld aspects could arise. This concept of invisibility and darkness must have become more and more important as time went on and the grasp of the nature of the mysteries became weakened by successive generations of initiates who were further and further from the original sources of information, though the Dogon even down to our time have maintained the information in a remarkably pure state. So there developed the underworld nature of the fifty-headed Cerberus-Anubis in Greek times. With the earlier Egyptians, as always with them, the underworld concept had been on more than one level. To the public the underworld aspect seemed to be entirely explicable by the disappearance of Sirius for seventy days - a fact which anyone could notice -and its reappearance following that period at dawn on the occasion of the star's heliacal rising. But the priests knew that the dark companion of Sirius was *never* visible.

It would be worth while now to look a little more closely at the dog Orthrus, who was Sirius. Orthrus is the dog of the herdsman Eurytion. Graves interestingly compares this Eurytion with the Sumerian Enkidu, the companion of Gilgamesh who was hairy and wild and came from the steppes and was imbued with incredible strength:¹⁸ 'Eurytion is the "interloper", a stock character ... The earliest mythical example of the interloper is the same Enkidu: he interrupted Gilgamesh's sacred marriage with the Goddess of Erech [Uruk], and challenged him to battle.' It is particularly interesting to find the Greek companion of Sirius compared by Graves to the Sumerian Enkidu, whom I also have identified with the companion of Sirius. For 'companion of Sirius' is precisely what Eurytion is; if Orthrus is Sirius and Eurytion the herdsman accompanies him, then Eurytion is the 'companion of Sirius'. And Enkidu is the strong hairy wild man who endured a trial of strength against Gilgamesh and became his companion after their wrestling match. Both Eurytion and Enkidu are hairy and rustic characters, and they seem to be related also to the god Pan, whose hairy and rustic nature classes him with them. The motif of 'interloper' and 'interrupting' and of challenging to a test of strength has to do with the fact

that the bright star Sirius is challenged by its strong companion star.

It is interesting in the light of our knowledge of Danaus having fifty daughters to read the opening of Pindar's tenth Nemean Ode¹⁰ which is written largely about the city of Argos (a name related to Argo just as was the name Argus of the *Argo's* builder and as was the word 'ark'): The city of Danaos

And his fifty daughters on shining thrones,

Sing of it, Graces,

Of Argos, home of Hera, fit for the gods.

What is so especially significant about this passage of Pindar's is the expression 'and his fifty daughters on shining thrones'. It will be remembered that the throne is the hieroglyph for Ast or Isis identified with Sirius, that the fifty Anunnaki of Sumer were on thrones, *etc.* All through the earlier traditions there has been a great deal of emphasis on the throne in connection with the Sirius material, and here in the late Pindar we find the same. By describing him as 'late' I do so on our Sirius time-scale, for of course he was at the very earliest portion of the Greek classical age.

There are further connections between the Sirius system and Argos and Danaos. Connections with the Minyan Libyans are many. The father of Danaos was himself 'the son of Libya by Poseidon'.²⁰ Danaos was also 'sent to rule Libya'.²¹ However, the connection with Egypt is also strong. Danaos's twin brother was called Aegyptos, of whom we read:²² 'Aegyptus was given Arabia as his kingdom; but also subdued the country of the Melampodes [the 'black-footed people' - the Egyptians], and named it Egypt after himself. Fifty sons were born to him of various mothers: Libyans, Arabians, Phoenicians, and the like.' So we see Danaos's twin brother had fifty sons. And Danaos had fifty daughters. This demolishes Graves's argument that they must refer to a college of fifty moon-priestesses, and emphasizes the connection with the fifty male companions of Gilgamesh, fifty male Argonauts, fifty male Anunnaki, *etc.*

Notice the two related but also quite definitely separate groups of fifty here. Together they add up to a hundred - a *hecate* - and have the same grandparents, but they are basically two separate fifties. Not only do they have separate parents and especially separate fathers, but they are separately distinguished by sex.

Danaos learns that his brother wishes to marry his fifty sons to Danaos's fifty daughters with the aim of their killing the fifty daughters after marrying them. So Danaos and his daughters all take flight to Rhodes and then to Greece where they land and Danaos announces that he is divinely chosen to become the King of Argos. Note that he chooses Argos. This and his connection with fifty are especially important later when I give the derivation of the words *Argo*, *Argos*, *etc.* And it is particularly interesting that when Danaos flees his brother he does so in a ship which he built with Athena's assistance - exactly the case with the Argonauts, who built the *Argo* with Athena's assistance.

The way in which Danaos became King of Argos was that a wolf came down from the hills and killed the lead bull and the Argives accepted the omen. 'Danaos, convinced that the wolf had been Apollo in disguise, dedicated the famous shrine to wolfish Apollo at Argos, and became so powerful a ruler that all the Pelasgians of Greece called themselves Danaans. He also built the citadel of Argos, and his daughters brought the Mysteries of Demeter, called Thesmophoria, from Egypt and taught these to the Pelasgian women. But, since the Dorian invasion, the Thesmophoria are no longer performed in the Peloponnese, except by the Arcadians.'²³

It is well known that the Pelasgians survived in Greece only in remote Arcadia after the Dorian invasion. This is why some of the older traditions continued in that strange region after they had ceased to exist elsewhere in Greece. Arcadia was in a sense the Wales of Greece. The Pelasgians considered themselves 'earth-born', as I shall discuss in a moment. Note that there is a specific reference to Egyptian mysteries being transplanted in Greece among the Pelasgians. When Danaos fled from Egypt to Argos, he is specifically said to have brought Egyptian mysteries, the Thesmophoria. Presumably the Sirius-complex was thus transplanted. (One should read Herodotus II, 165-70.) The element of the wolf, sometimes substituted for the dog in the Sirius tradition of

the Dog Star, is important. It is an obvious European substitute for the non-existent jackal of Anubis. With no jackal in Europe, the wolf was the candidate. Wolfish Apollo is jackalish. It was from this changing of the jackal into the wolf through adaptation to the European clime that those peculiar wolf traditions arose in wild Arcadia which developed in pre-classical times into the werewolf concepts. Human blood-sucking vampires, the use of garlic for protection against them, and lycanthropy of werewolves all luxuriated in the wilds of Arcady among the Pelasgian survivors in pre-classical Greece after the Dorian invasion. The phenomenon is rather like the plethora of fairytales and 'Celtic twilight' to be found in Ireland, with the multitude of fantastic stories and creatures. What is a werewolf? It is a man's body with a wolf's head. That is exactly what Anubis became when transferred to Greece; instead of a man's body with a jackal's head, he was a man with a wolf's head because there was no jackal in Greece. And the temples of Wolfish (or Lycian) Apollo, were not altogether rare in Greece. Aristotle's famous school at Athens, the Lyceum, was in the grounds of the Lycian Apollo's temple just outside the Athens Gate of Diochares. The name 'Lyceum' comes from the Lycian Apollo, which is the Wolfish Apollo.

It is extremely interesting, incidentally, to read in Pausanias (Book II, 38, 4) that near Argos 'are the Landings, where they say Danaos and his sons first landed in the Argolid'. Here we read that Danaos had sons, not daughters. This is a strong indication that what was really meant to be significant about Danaos's progeny was not their sex but their number of fifty. And from Pindar we see that they were on fifty thrones. The fact that Aegyptus of Egypt had fifty sons as well and that Danaos's daughters (or sons) taught the Egyptian mysteries to the Greeks all indicates that what transpired was a transplanting from Egypt to Greece of the all-important tradition to be common to both countries from then on - the fifty as linked with the Dog Star Sirius and as celestial thrones. In other words, the mystery of the orbit of Sirius B around Sirius A in its fifty celestial steps.

According to Graves,²⁴ the serpent's teeth sown by Jason were 'a few left over from Cadmus's sowing at Thebes'. Graves says of the latter:²⁵ 'A small tribe, speaking a Semitic language, seems to have moved up from the Syrian plains to Cadmeia in Caria - Cadmus is a Semitic word meaning "eastern" - whence they

crossed over to Boeotia towards the end of the second millennium, seized Thebes, and became masters of the country.

‘The myth of the Sown Men and Cadmus’s bondage to Ares suggests that the invading Cadmeans secured their hold on Boeotia by successfully intervening in a civil war among the Pelasgian tribes who claimed to be autochthonous [‘sprung from the earth’]; and that they accepted the local rule of an eight-year [one hundred months according to Graves’s lunar theories, but it really comes to only ninety-six] reign for the sacred king. Cadmus killed the serpent in the same sense as Apollo killed the Python at Delphi (see 21.12). The names of the Sown Men - Echion (“viper”); Udaeus (“of the earth”)’...

At this point I shall interrupt him.²⁶ Let us look at this strange name Udaeus. We should note that the similar word *odax* means ‘by biting with the teeth’ and comes from the verb root *dak* and its infinitive *dakein* which means ‘to bite - of dogs’! Perhaps this is a clue as to the importance of *teeth*, since in Greek there was this word ‘to bite’ which specifically referred to the biting of dogs and it may be that this aspect of dogs was incorporated at a pre-Hellenic early date into the lore of the Dog Star by one of those many puns which proliferated in all the high civilizations of the Mediterranean. We must, in order to understand the ancient inclinations to punning, rid ourselves of our modern prejudice against puns as a form of humour. Puns in the ancient world had no direct humorous intent. In a milieu where codes and allegories were sorely needed, puns provided the ‘handles’ to new ways of cloaking truths by use of synonyms. If it was a game, it was a sacred game, a *ludens*.

Notes

1. Graves, *The Greek Myths*, op. cit., 120.1.

2. Ibid.

3. Ibid., 120.1.

4. Larousse *Encyclopaedia of Mythology*, Paul Hamlyn, London, 1965, pp. 90-1.

5. Lindenblad, op. cit. (see Notes to Chapter One). See also further discussion in Chapter Eight.

6. *Greek Myths*, I3i.g. and 131.2.

7. *Greek Myths*, 3.c.

8. Ibid., 3.3.

9. Benardete, Seth. *Herodotean Inquiries*, The Hague, 1969, p. 126.

to. See the end of his Introduction to *Greek Myths*, op. cit.

ti. The four books by Eva Meyrowitz are now out of print. In the fourth book of the series (see Note 12) the author describes the series: 'This is the fourth volume of the series of which the first, *The Sacred State of the Akan* [1951], gives a picture of the old Akan civilization. The second, *Akan Traditions of Origin* [1952], deals with the early history of the people who now call themselves Akan. The third, *The Akan of Ghana, their Ancient Beliefs* [1958, originally entitled *The Akan Cosmological Drama*], showed the development of their religion. The fourth, here presented, attempts to show that Akan religion, which includes the cult of the divine king and the main features of their social

organization, is largely derived from Ancient Egypt.' Eva Meyrowitz is an anthropologist from Cape Town who worked in the Gold Coast (now Ghana) from 1936-45 studying the peoples of that country. The third volume mentioned above (1958) contains a final chapter which is entitled 'Analogies to Akan Beliefs and Customs in Libyan North Africa'. As for the Akan peoples, they speak languages of the Twi branch of the Kwa subfamily of the Western Sudanic linguistic stock and inhabit the eastern part of Ivory Coast, the southern half of Ghana, and parts of Togo. The majority are in Ghana, where they settled in successive waves between the 11th and 18th centuries. All of Meyrowitz's books above, and the fourth mentioned in Note 12, were published by Faber in London.

12. *The Divine Kingship in Ghana and Ancient Egypt* (originally entitled *The Akan of Ghana, the Akan Divine Kingship and Its Prototype in Ancient Egypt*), Faber, London, 1960. Went out of print in February 1963. The map is adapted from one in this book.

13. *Greek Myths*, op. cit., 8.

14. Ibid., 8.2.

15. Ibid., 34.

16. Ibid., 21.2.

17. Ibid., 34.1. and 34.3.

18. Ibid., 143.5.

19. *The Odes of Pindar*, trans, by C. M. Bowra, Penguin paperback, 1969, p. 176.

20. Graves, *Greek Myths*, op. cit., 60.a.

21. Ibid., 60.b.

22. Ibid., 60.b.

23. Ibid., 60.f.

24. Ibid., i52.e.

25. Ibid., 58.5. and e-g.

26. I will complete the quotation from Graves here: . . . Chthonius (“of the soil”); Hyperenor (“man who comes up”) and Pelorus (“serpent”) -are characteristic of oracular heroes. But “Pelorus” suggests that all Pelasgians, not merely the Thebans, claimed to be born in this way; their common feast is the Peloria (see 1.2.)’. The remaining three names are thus seen to be quite as one would expect.

CHAPTER SIX

The Rising of 'Serpent's Tooth'

It would now do to elaborate further on the points so recently made. It should be noted that in Egyptian the hieroglyph *tchet* of a serpent means both 'serpent' and 'body'. The cobra hieroglyph *drd* means both 'serpent' and 'goddess'. Elsewhere we encounter *drd* frequently having the common general meaning of 'goddess'. The frequent incorporation of the serpent into late Sirius-lore among the Greeks probably stems from a pun or corruption of the Egyptian determinative form for 'goddess' in reference to the goddess Sothis-Isis (Sirius). In fact, if an Egyptian were to write 'the Goddess Sirius' in hieroglyphs, the result would be:



which can also (by pun) be read quite literally as: 'serpent's tooth'! In addition to this Egyptian pun, there is a Greek pun connected with the story of Jason sowing the teeth. In Greek the word which describes the growing of a tooth from the gum is *anatole*; a variant is *anatellō*. These words would describe the growing from the ground of the teeth, and 'to make to rise up' or 'to give birth to' is their basic meaning. However, these words are also used to describe the risings of stars and constellations. Hence, if one wanted to say that the star Sirius was rising at the horizon, one could pun and say: 'The tooth is growing up from the ground as from a gum, that is, the ground is giving birth to a tooth.' Hence all the many 'earth-born' creatures linked to the stars, and especially Sirius. As a matter of fact, in translating the now lost early *Argo* tales from Greek into English it is problematical whether instead of saying 'the teeth in the ground gave birth to ...', etc., one should really have considered the equally literal

translation ‘Sirius, namely “the tooth”, rose over the horizon.’ In short, when does a pun cease to be a pun and merely consist of a mistranslation based on ignorance of the true subject-matter?

It may be that some of the puns taken over from Egyptian into Greek might have involved the same misunderstandings that ours could do with regard to translating the Greek into English. There may thus be a double layer of obfuscation between English readers and the true subject-matter. Those experts in Greek mythology who may feel safe in discussing ‘earth-born’ mythological creatures as being sprung from the earth in a direct sense, mud and grime no doubt still caking their hides as they pop up into the air, may be better advised to take into consideration that these creatures were not meant really to be described as coming out of holes in the ground so much as rising over the horizon, due to the fact that they are stars and constellations. And if they are such cosmic figures their peculiar shapes and characteristics become immediately less bizarre and, instead, more meaningful.

We know that Colchis was the place where Helios stabled his horses and rose each morning, according to Greek mythological tradition. Since Colchis was thus the archetypal eastern rising point to the Greeks, being at the far eastern end of the Black Sea and being ‘as far east as you can get’ to a Greek, it actually represented ‘the East’. Thus it makes sense that Jason should have sowed the serpent’s teeth there. For the growing of the teeth from the ground at that precise point was symbolic language for: ‘The star (goddess) Sirius, known in code as “serpent’s tooth”, is rising heliacally on the eastern horizon which is symbolically represented by Colchis.’ And since the sun follows immediately upon the star at its heliacal rising, all the more reason that ‘Serpent’s Tooth’ should spring up at the place where the Sun, Helios, spends the night and then rises.

The reason why the only other example of serpent’s teeth being sown took place at Greek Thebes, when Cadmus sowed them there, is that Egyptian Thebes and Aea at Colchis are equidistant from Greek Thebes (see Figure 14). Hence, a probable reason for the name of Thebes being used in Greece. Greek Thebes is in a sense a ‘code’ for Colchis, since an action performed there may be understood as taking place within the symbolic framework of the Thebes-

Colchis-Thebes triangle (Figure 14). To go to Thebes in Greece was symbolically to step on to the Colchis axis. To travel from Greek Thebes to Colchis was equivalent to travelling from Greek Thebes to Egyptian Thebes: the distance was the same. Greek Thebes, where 'serpent's teeth' were sown, is equidistant from Colchis, where 'serpent's teeth' were sown, and Egyptian Thebes, where 'Serpent's Tooth' was worshipped. To sow the teeth at Greek Thebes was to perform the Colchian action on Greek soil because of the knowledge of their geodetic interrelation. This kind of thinking is based on a theory of correspondences such as the Dogon exhibit in all their most minute daily acts.¹ In my opinion, a mind is healthy which can perform symbolic acts within mental frameworks which are not immediately obvious. A mind is diseased when it no longer comprehends this kind of linkage and refuses to acknowledge any basis for such symbolic thinking. The twentieth century specializes in producing diseased minds of the type I refer to -minds which uniquely combine ignorance with arrogance. The twentieth century's hard core hyper-rationalist would deride a theory of correspondences in daily life and ritual as 'primitive superstition'. However, the rationalist's comment is not on upon symbolic thinking but merely one upon himself, acting as a label to define him as one of the walking dead.

The word 'ark' is an interesting one worth investigating. We already know that the related word *Argo* was the ship of fifty oars which we believe symbolized Sirius B in its fifty-year orbit. Could this word 'ark' also have a tie-in with the other characteristic of Sirius B, namely its strength? In this we are not disappointed. The Greek verb *arkeo* has the meaning, according to Liddell and Scott's lexicon, of 'to be strong enough'!

The word Argus has even applied to a dog. It was the name of the old hunting hound of Odysseus (Ulysses) who recognized his master Odysseus when he finally returned from his voyages, and died as it greeted him. No one else had recognized Odysseus after twenty years' absence except for the faithful old dog, who upon greeting his long lost master, expired on the spot.

Argus has also been used by the Greeks as their name for the hundred-eyed monster set by Hera to watch over Io. And it was Io the cow who led Cadmus

from Delphi to Thebes where he sowed the serpent's teeth.

If the words *ark*, *Argo*, *Argus*, etc., could be construed as having an actual linguistic derivation from the ancient Egyptian (which would have had to precede by some time the Aryan invasion of India *circa* 1500 B.C., as the word exists in Sanskrit, as we shall see shortly), then it might ultimately be from *arq* and *drqi*. These related words have various curious meanings in Egyptian and can be written many ways other than the simplest given above. *Arq* means 'to complete, to finish', in the sense of a cycle. It also means 'the last' or 'the end of anything'. For instance, *arq renpet* means 'the festival of the last day of the year'. *Arqit* means 'the conclusion of a matter'. All these meanings are reminiscent of the meaning of 'Argus' in Homer - to represent the dog who witnesses Odysseus's return and immediately dies, having seen his master's face once again after so many years. The great cycle was completed - Odysseus was home. And immediately Argus dies. Here in the earliest Greek literature we see 'Argus' used as a synonym for the Egyptian *drq*.

The Egyptian *drqi* is even more significant. The final determinative (picture not used as a letter) sign is a circle with a dot in the middle. The meaning of this word is 'the end of a period, the last day of the month'. This term, then, has calendrical usage. It can be applied as well to any culmination of a period. Hera's monster Argus has a hundred eyes, and there are a hundred months (comprising two sets of fifty) to a Great Year. Here 'Argus' is a poetic synonym in early Greek tradition for *drqi*, 'the end of a period' - its culmination, its total when completed.

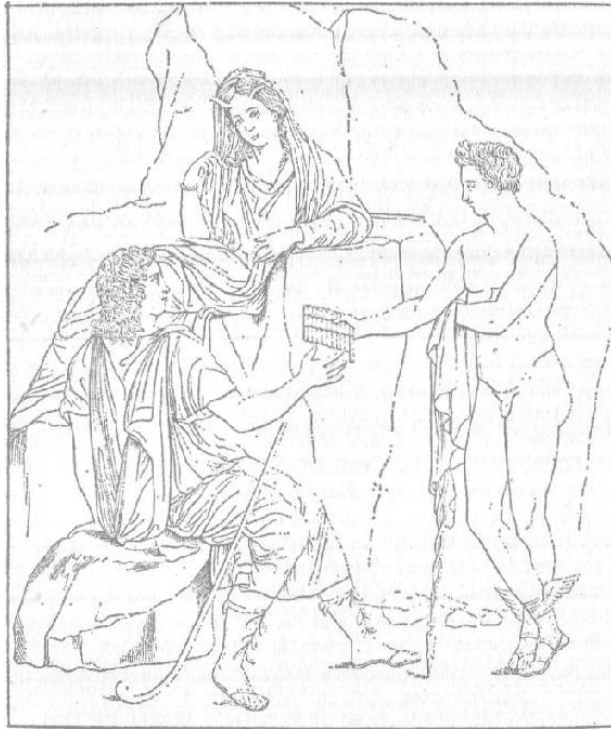


Figure 77. Io watched by Argus, with Hermes. From 1st-century b.c. Italian temple of Isis, preserved on wall of inner sanctum

Our suspicion that there is a distinct reference to an orbital period of Sirius B is hinted at by the additional meaning of *drq* - 'girdle', representing as it does something around a centre. *Arq* has the further verbal meaning of 'to bind around', implying specifically a revolution. The Latin *arcere* means 'to enclose' and our present-day word 'arc' carries on the circular motion idea.

At Pompeii² an Egyptian-influenced Italian temple of the first century b.c. contained 'seven large paintings representing Egyptian landscapes, and Io watched by Argus, and Io received by Isis in Egypt. [A drawing of the painting of Io watched by Argus is reproduced in Figure 17. It is in Roman style, of course, and artistically quite mediocre.] In this room the Mysteries of Isis were probably acted. - 'So we have specific archaeological evidence that Argus of the hundred eyes was pictured on the wall of the inner sanctum of an Isis temple, and Isis was, as we know, identified with Sirius.

What were these mysteries of Isis? Well, they seem to have been related to the Thesmophoria Mysteries which the daughters of Danaos were said to have brought from Egypt to Argos. For in Liddell and Scott we find that the name Thesmophoros ('law giving') was a name given to Isis. The name was most commonly applied to Demeter, a Greek goddess, but was also the name of Isis in Greece. In short, Isis was represented as Demeter in connection with these mysteries, but in the Italian temple referred to above was obviously represented as herself. The 'fifty' and 'hundred', connected as we have seen with Danaos, are found again here in the ruins of this Italian temple, where hundred-eyed Argus is portrayed in the inner sanctum of the Isis temple. The name Thesmophoros should not distract us too much. It comes from Thesis, with a meaning including our *thesis* of today - and *thesmos* means 'that which is laid down or established, or instituted'. Plutarch in 'Isis and Osiris' (378 D) informs us: 'Among the Greeks also many things are done which are similar to the Egyptian ceremonies in the shrines of Isis, and they do them at about the same time. At Athens the women fast at the Thesmophoria sitting upon the ground.'³

In Wallis Budge we read⁴ from an Egyptian text of 'the star Septet (Sothis, the Dog Star), whose seats are pure', which is a specific reference to there being *seats* around Sirius - and, of course, there are fifty seats as we know, which led to the fifty thrones of the Anunnaki, the fifty oarsmen of the *Argo*, etc.

In Wallis Budge we also read⁶ excerpts of Egyptian texts speaking of holy emanations proceeding from Sirius and Orion which 'vivify gods, men, cattle, and creeping things ... both gods and men', and are a pouring out of the seed of the soul. Of course, the Dogon maintain the same tiling in almost precisely the same terms. To them the seed which energizes the world pours forth from the Sirius system.

In Wallis Budge we find also a particularly interesting bit of further information.⁶ There we learn that the deceased spirit of a man 'goes to Nephthys' and the celestial boat. We have much earlier identified the dark Nephthys with Sirius B. It is therefore interesting to learn that as soon as the deceased visits Nephthys and his 'double' (*ka*) is recorded in heaven, he

immediately ‘revolves like the sun’ - which I think is a pretty specific astronomical description. As he *revolves* he ‘leads on the Tuat (underworld or heaven)’, which is a curious turn of phrase implying a round dance or at least motion which is purposeful, ‘and is pure of life in the horizon like Sahu (Orion) and Sept (Sirius, the Dog-star)’. I hope it will be noticed that the phrase here reads ‘*in* the horizon’ - and much earlier I said I believed the term ‘the horizon’ applied specifically to the orbit of Sirius B. Here we have the deceased revolving like a sun in a purposeful way in ‘the horizon’. I don’t think the Egyptians could possibly have been more specific and clear than this. Wallis Budge comments: ‘The mention of Orion and Sothis is interesting, for it shows that at one time the Egyptians believed that these stars were the homes of departed souls.’

Having learned this (a belief held as well by the Dogon, as we know), let us return to our word *arq* which I believe to be the origin of *ark* and *Argo* and *Argus* in Greek, all of which I claim are related to Sirius. Perhaps the reader will not be too amazed if by now I inform him that *arq heh* is a ‘necropolis’ and *drq-hehtt* is ‘the Other World’ -which we have just this moment learned was located by the early Egyptians at the star Sirius!

If the reader can bear some other words, I propose to consider a few which are important in other ways. I beg to refer again to the work of Wallis Budge, which is becoming rather familiar to us now,⁷ since I have cited it so frequently in recent pages. The reader must realize that we are nearing the end of the matter and summon his last reserves of patience for the final trudge across hieroglyphic soil, craggy though it may be.

In Wallis Budge, then,⁸ we find a passage from one of the Pyramid Texts where Osiris is described in his role of husband of Sothis (Sirius) and implored: ‘Be not wroth in thy name of Tchenteru’. This plaintive plea must be examined. What on earth is so terrible about this ‘Tchenteru’ ? Well, to begin an explanation, the word *tchentch* means ‘wrath, anger’. So that is obviously the meaning of the word. But we have to continue to pursue this.

Shortly afterwards in the same Pyramid Text we read of the birth of Horus, the son of Osiris, by Sothis: 'Horus-Sept [Horus-Sirius] cometh forth from thee in the form of "Horus, dweller in Sept [Sirius]". Thou makest him to have a spirit in his name of "Spirit, dweller in Tchenteru".'

Here we have an interesting new light on this Tchenteru which seemed so important for no reason which was immediately apparent. It is something to do with Sirius. What, then? Obviously the close association of the place Tchenteru and the Sirius system led me to investigate the word and its related forms.

I found that *tchenth* means 'throne'. And I discovered that *tchens* means 'weight, heavy'! This was just too much to be coincidence. We first have the Sirius system described as being the place Tchenteru and then discover that that word in related forms means strictly Sirius-related things: 'throne', and 'weight, heavy'. Tchenteru is 'the place of weight or heaviness' and is identified by the Egyptians with the Sirius system! I also discovered that Tchenti is a two-headed god. Now, a two-headed god with each head representing one orbit and having fifty eyes, gives us a hundred-eyed god, and the hundred-eyed monster of the Greeks was Argus.

Wallis Budge says another form of *tchens*, 'weight', is *tens*, which also means 'weight, heavy'. And the very next word in the giant dictionary is *teng* which means 'dwarf'. We thus see an apparent variation of the same word meaning 'heavy' and 'dwarf', and this word is specifically applied to the Sirius system.

But just in case there are any sceptics left (and there always are), a look at the Egyptian word *shenit* will be helpful. This word means 'the divine court of Osiris'. The same word *shenit* means 'circle, circuit', and *shent* means 'a circuiting, a going round, revolution'. *Shenu* means 'circuit, circle, periphery, circumference, orbit, revolution', and there is a specific expression written as two loops (in hieroglyphics) which Wallis Budge gives, and which means 'the two circuits' - and twice fifty is a hundred, giving us the Great Year. *Shen ur* means 'the Great Circle' or 'the circuit of the Great Circle' or 'the islands of Shen-ur', which last is interesting in that it indicates that this place of the Great

Circle is not only ‘the divine court of Osiris’, who is the husband of Sothis (Sirius), but is also a place with islands (stars or planets) where one can presumably live. It does seem that the Egyptians had quite as clear a conception of the Sirius system as the Dogon have.

The Egyptian word *khemut* means ‘hot parching winds, the kha-masin, or khamsin, *i.e.* winds of the “fifty” hot days’. This is rather interesting. In late times ‘the dog days’ about the time of the rising of S.M.—9 X77

Sirius and called ‘dog days’ from ‘the Dog Star’ were supposed to be hot and scorching. There are many references to this in writers like Pliny and Virgil. Here is an earlier tradition of hot days incorporating the Sirian number *fifty*. This same word *khemut* has familiar meanings in its related forms. *Khemiu-urtu* means ‘the stars that rest not’. *Khemiu-hepu* means ‘a class of stars’. *Khemiu-hemu* also means ‘a class of stars’. In short, *kherniu* means ‘stars’. So *khetn* (though apparently not used on its own in surviving texts’ really means ‘star’, as well as referring to fifty days. *Khem* also has the meanings ‘shrine, holy of holies, sanctuary’, and ‘little, small’, also ‘he whose name is unknown’, *i.e.* ‘God’, also ‘god of procreation and generative power’, also ‘to be hot’, and ‘unknown’. All these meanings are relevant to the Sirius mysteries. The Sirius system was held to be the source of generative and procreative power as we have already seen, Sirius B was of course ‘unknown’, and was ‘little, small’, and was a star that rests not (that is, it is always orbiting, which is not at all usual for a star). And what is a star that rests not unless it be Sirius B? For only the planets, which were well known and differentiated by the ancient Egyptians, ‘rested not’ with the remarkable exception of Sirius B. Comets and meteors apart, and they too were well classed to themselves.

There is a Hymn to Osiris preserved on a stele in the Bibliotheque Nationale, Paris, which dates from the XVIIIth Dynasty around 1500 B.C., and which we find in Wallis Budge. We find *khem* used in this interesting hymn in the following passage :⁹

aukhemu - seku kher ast hra-f

The stars which never diminish are under of his face, the throne

ast f pu aukhemu-urtu

his thrones are the stars which never rest

This passage is extremely interesting because of the recurrent theme of ‘thrones’ (which word as a proper noun in the singular is the name of Isis) as applied to the celestial region of Osiris - which, as we know, is the Sirius system. Of course, in the superficial view this passage may seem merely to describe some vague kind of reference to a great god who is in the sky somewhere or other, and has a heavenly throne and has a lot of stars twinkling here and there around him for added glamour. But a close inspection of the way things are said here won’t let that kind of interpretation stand up. Apart from the fact that the Egyptians were incredibly precise in what they said: what is said in the texts is what is said in the texts. In the above passage describing the *khem* or stars, we find them associated with - indeed identified with - thrones, which are quite separate from the throne of Osiris himself. Now, this is precisely equivalent to the description of the throne of Anu and the thrones of the Anunnaki which surround it, as we meet in Sumer. And here too the context is both celestial and related to Sirius. And here too the thrones are ‘stars which never rest’ -which could be a description of the movement of Sirius B, with the familiar meaning of each year’s ‘step’ in the orbit equated with a ‘throne’. All that is lacking here is their number of fifty.

The same word, *khemut*, however, refers to fifty days; and to Sirius! We therefore have the one remaining ingredient!

Now we must turn our attention to the mysterious Egyptian word *tcham*. A general meaning of *tcham* is ‘sceptre’, possibly because the meaning of *tcham en Anpu* is the name of ‘the magical sceptre of Anpu (Anubis)’.

Tchamti are 'bowmen' and Sirius is the Bow Star, as we know. The really intriguing meaning of *tcham* is 'a kind of precious metal'. There are various expressions in the literature such as 'the finest *tcham*, 'real *tcham*\ and *Hcham* from the hilltop'. The impression one gets is that this *tcham* is a pretty special commodity. Presumably Anubis's sceptre, which is the *tcham* sceptre, is made of this *tcham* material. A sceptre is an object which exercises rule and force. The fact that there is '*tcham* from the hilltop' could either have a mundane meaning to the effect that the stuff is a metal mined in the hills or more likely is connected with Anubis, not only through his sceptre, but through the hilltop as the residence of the god in the ziggurat sense such as one finds in Sumer. For Anubis was known as 'Anubis of the hill'.

In Wallis Budge we find more information from Pyramid Texts about *tcham*}" The references are entirely stellar. There is a description of the deceased Pharaoh, in this case Pepi I. Pepi's father is Tem 'the great god of An (Heliopolis) and the first living Man-god; the creator of heaven and earth'. In Sumer too the great god of An was the creator of heaven and earth, but there was not, as far as we know, a city named after him as was the Egyptian city of An which came to be known to the Greeks as Heliopolis.

Of Pepi we read in the text that 'the appearance of this god in heaven, which is like unto the appearance of Tem in heaven'. This is all gross flattery - typical for the texts mourning the dead Pharaohs. Every Pharaoh looks like the great god of An and every other great god and does every conceivable celestial thing. The Pharaoh is dead, long live the Pharaoh!

Now various gods, including the Governor of the Land of the Bow and Sept (Sirius) 'under his trees', carry a ladder for Pepi. Pepi then 'appeareth on the two thighs of Isis, Pepi reposeth on the two thighs of Nephthys'. Tem puts Pepi at the head of all the gods, and 'Pepi setteth out in his boat', with Horus. He then stands 'among the imperishable stars, which stand up on their *tcham* sceptres, and support themselves on their staves'. This seems to make clear that the metal *tcham*, is also a specifically stellar material which supports the stars! The Greeks

had a tradition of ‘the strongest metal’ and called it *adamant*. Kronos used it to castrate Ouranos (Uranus); mythically it was the strongest metal.

Then we read:¹¹ ‘This Pepi liveth life more than your sceptres au.’ The word *au au* means ‘dog, jackal’, and I suspect a connection with ‘dog star’ and Anubis who is jackal/dog. Then: O ye gods of the Sky, ye imperishable ones, who sail over the Land of Tehenu [the Tehentiu are ‘the sparkling gods, the stellar luminaries’ from *tehen* which means ‘to sparkle, to scintillate’] in your boats, and direct them with your sceptres, this Pepi directeth his boat with you by means of the *uas* sceptre [Uasar is a variant form of Asar, the name of Osiris, and *uas-t* is ‘a kind of animal, dog (?)’¹²] and the *tcham* sceptre, and he is fourth with you. [indicating that he joins a group of three stars!] O ye gods of heaven, ye imperishable ones, who sail over the Land of Tahennu, who transport yourselves by means of your sceptres, this Pepi transporteth himself with you by means of the *uas* and *tcham*, and he is the fourth with you.... This Pepi is the *anes* matter which cometh forth from Nephthys.... Pepi is a star ... Pepi is Sept, under his *sebt* trees ... The star Septet (Sothis) graspeth the hand of Pepi. Pepi plougheth the earth ... Osiris [Pepi is addressed by the name], thou art the double of all the gods. [Uas is also the Egyptian name of Thebes.]

Here we see the dead Pharaoh Pepi’s celestial after-death experiences described. He goes to the stellar regions and joins three stars, becoming ‘the fourth’. He uses three sceptres for power, the *au* (similar to a word for dog/jackal), the *uas* (also the name of Thebes, similar to another word for dog, and related to a variant form of the name of Osiris), and the *tcham* (a mysterious metal and the sceptre of the dog / jackal-headed god Anubis). The star Sirius is specifically described as taking his hand. Pepi himself is transformed into a star, as clearly stated: ‘Pepi is a star.’ He becomes a star and his hand is taken by the star Sirius, which can only mean that he becomes a star in the Sirius system, and he ‘becomes fourth with them’. He then is identified in turn with the three other stars of the Sirius system, which are Isis-Sothis, Nephthys, and Osiris. The first

emits *lanes* matter', the second is the female Nephthys, which may be identical with the 'female Sorgho' or Sirius C of the Dogon (though sometimes Nephthys refers to Sirius B in other contexts), and the third is called 'the double of all the gods' - being the circling companion and the archetypal 'double' of many figures from Isis to Gilgamesh. This is quite obviously Sirius B.

And there is *tchdm*, the mysterious, potent stellar 'metal' which is said to be the power of Anubis, whom we have earlier identified as the personification of the *orbit* of Sirius B. And *tchdm* is quite similar to the word we dealt with earlier, *tchens*, meaning 'weight', and its related forms *tens* 'heavy, weight', *tensmen* 'to be heavy' and the similar word *teng* 'dwarf'. If we spoke of something described only by a series of these apparently related words, namely: *tchens tens teng tchdm*, the meaning would be, quite literally, allowing for the absence of proper grammar, 'the weight (of) heavy dwarf star-metal', remembering that *tchdm* is also specifically identified as the power of the god Anubis whom we have identified previously as the orbit of Sirius B, the dwarf star composed of super-heavy 'star metal'.

Concerning this star-metal it is as well to take notice that in 'Isis and Osiris' (376 B), Plutarch says of the Egyptians:¹³ 'Moreover, they call the lodestone the bone of Horus, and iron the bone of Typhon, as Manetho records' (Manetho fragment 77.) Recall that 'the bones of Earth' in ancient tradition are stones. It is interesting that a heavy metal is 'the bone' of Typhon which we have earlier determined as a description of Sirius B. And magnetized iron or lodestone is 'the bone' of Horus, the son of Isis and Osiris. This is exactly the sort of tradition one would expect.

We must recall that Anubis is our form of writing the actual Egyptian word Anp or Anpu. The verb *anp* means 'to wrap around', obviously connected with Anubis's role as sacred embalmer. It is significant that Anp heni is 'a jackal-headed god who guarded the river of fire, a form of Anubis'. We have already postulated that 'the river of fire' may be a way of describing the orbit of the star Sirius B, so it is quite interesting to see that Anubis, whom we have already identified as representing the orbit, is specifically said to be the guardian of the

same river of fire. And ‘wrap around’ could have an orbital meaning as well as its obvious meaning of ‘swathe’.

We recall that a special description of *tchdm* given in Wallis Budge’s *Dictionary*¹⁴ was ‘*tchdm* from the hilltop’. Also we have just equated *tchdm* with Anubis. So it should not surprise us that a title of Anubis is *Tepi* (*u-f* he who is on his hill’. As I mentioned a moment ago, this seems to be a ziggurat-concept such as one finds in Mesopotamia. The *tepi* complex of words is quite interesting and bears examination.

Tepi means ‘the foremost points of the bows of the ship, the hindmost part of the stern’ - extremely specific and exactly fitting my specification of what was important about the ship *Argo*. *Tepi* also means ‘the first day of a period of time’, and I maintained earlier that the tip of the prow and the tip of the stern of *Argo* (with fifty oar-places between them) was a symbol of the orbit of Sirius B. Also we will recall that *arqi* means ‘the last day of a period of time’. So any period of time has a first day called *tepi* and a last day called *arqi* in Egyptian. And *tepi* describes the *Argo* just as *arq* is the origin of the very word *Argo*. And *Tepi* is part of a crucial descriptive title of Anubis whom I have equated with the *Argo*. There is even a further connection between *tepi* and the Sirius-complex. The word *tep ra* means ‘the base of a triangle’ and the words *septu* and *septch* both mean ‘triangle’ -Septit is Sirjus and the triangle is its hieroglyph.

The basic meaning of *tep* is ‘mouth’ and even more fundamentally ‘beginning or commencement of anything’. It is interesting for the study of concepts of geometry to note that the Egyptians thought of the base of a triangle as its ‘mouth’ or beginning.

Now, the link-up which takes place between *arqi* and *tepi* - that is, the end of a

cycle and the beginning of the next - could lead to some confusion without much trouble. If the last day of the old cycle is the *arqi* and the first day of the new cycle is the *tepi*, it would be easy to begin to think of the *arqi* as the beginning - after all, it and the *tepi* are adjoining each other and amount to practically the same thing. In a sense one could say that the true end of a cycle is the beginning of the next. For us, New Year's Day is represented by a combination of an old man with a sickle or scythe walking away and a baby, representing the New Year. The two figures are together. Similarly, the *arqi* and the *tepi* are inescapable companions. As time passed and traditions decayed a bit, it must have been an easy thing to think of *arqi* as the actual beginning of a new cycle, since it was the end of the old. And it is this which I presume happened in Greek, for the verb *arkomai* means 'one must begin' or 'one must make a beginning'. And it is related to *arche*, which means 'beginning, starting-point', etc., and which survives in our *architecture* and *archetype*. So here is further evidence that the 'ark' words in the Indo-European languages derived from the Egyptian *arq* words.

Tepi a became the word for 'ancestors', due to the connection of *tepi* with the *beginnings* of things. And the *tepi-aui-qerr-en-pet* were 'the ancestor-gods of the circle of the sky', which is again significant Visitors, perhaps?

Gods of the circle in the sky seem to be referred to by Plutarch's account of the Persian religion in 'Isis and Osiris' (370 A-B). As many people know, the Persian religion prior to Islam was Zoroastrianism, which survives today as the religion of the Parsees of Bombay in India, to which city they fled from their Persian homeland when it was being conquered by the Moslem invaders. The Persians are not Semitic Arabs but are Indo-European, with a language and original religion closely related to the Aryan Indians and to Sanskrit. In fact, the earliest form of Sanskrit, which is called Vedic, is very little different from the earliest form of Persian, which is called Avestan.

Zoroaster (also known as Zarathushtra) is known to have postulated two basic

divine principles: Ahura Mazda the principle of light and goodness, and Ahriman the principle of evil and darkness. These two principles are also known by the names of Oromazes and Areimanius, which are the names used for them in Plutarch's treatise. If we recall Plutarch's description, cited by us earlier, that Anubis was the circle dividing the light from the dark in Egyptian religion, it will be interesting to note that in 369 E-F he equates with this concept, by describing it in similar terms, the Persian god Mithras who mediates between the darkness and the light. Then in 370 we find this remarkable passage: '(The Persians) also tell many fabulous stories about their gods, such, for example, as the following: Oromazes, born from the purest light, and Areimanius, born from the darkness, are constantly at war with each other; and Oromazes created six gods, the first of Good Thought, the second of Truth, the third of Order, and, of the rest, one of Wisdom, one of Wealth, and one the Artificer of Pleasure in what is Honourable. But Areimanius created rivals, as it were, equal to these in number.' These twelve gods would seem to be zodiacal. But it is the following passage, immediately after this, which becomes really interesting: 'Then Oromazes enlarged himself to thrice his former size, and removed himself as far distant from the Sun as the Sun is distant from the Earth, and adorned the heavens with stars. One star he set there before all others as a guardian and watchman, the Dog-star. Twenty-four other gods he created and placed in an egg. But those created by Areimanius, who were equal in number to the others, pierced through the egg and made their way inside; hence evils are now combined with good.' A footnote to the Loeb edition adds: 'It is plain that the two sets of gods became intermingled, but whether the bad gods got in or the good gods got out is not clear from the text.'

This passage is really deserving of some attention. We find a quite specific description of all this taking place in a region meant to be distinct from our solar system. The Persians seem to have quite clearly understood the fixed stars to have been beyond the system of the sun. This, at least, is what they seem to be trying to convey - a distinction of locale. In any case, the 'light' god Oromazes and the 'dark' god Areimanius each create twenty-five gods, which gives fifty. And they are placed in an egg, which is an elliptical shape just as in an orbit. One of the twenty-five gods created by Oromazes is by a slight garbling said to be Sirius, but in any case, there were created by Oromazes the Dog Star Sirius plus twenty-four other gods which makes twenty-five and a corresponding twenty-five created by Areimanius - and they mingle in the shape of an egg.

What does that sound like? And Sirius is specifically stated to be the chief one. And as Areimanius was the 'dark' god and his creations were 'dark', then his creation in opposition to Sirius would be a 'dark' Sirius, wouldn't it? And as for the fifty gods arrayed round Sirius (speaking strictly from this text one would have to say the forty-nine gods arrayed around Sirius, but I speak of garbling of the tradition because, from what we already know from other such descriptions from elsewhere, Sirius should really be the fifty-first element) they obviously represent the fifty years of the orbit of Sirius B in an egg shape around the Dog Star as its 'guardian and watchman'.

There are further examples of a wavering between forty-nine and fifty in the ancient traditions. Graves has these interesting remarks:¹⁶ 'Chief priestesses were chosen by a foot race (the origin of the Olympic Games), run at the end of the fifty months, or of forty-nine in alternate years.' Apart from the fact that Graves here speaks of 'the fifty months' as antecedent to the Olympiads, a point which we discussed much earlier, we see the alternative use of forty-nine and fifty as a quantitative time measurement. This is rather like the shilly-shallying between forty-nine and fifty in the above Persian description. There is also this example from the Bible, in Leviticus 25, 8-13:

You shall count seven sabbaths of years, that is seven times seven years, forty-nine years, and in the seventh month on the tenth day of the month, on the Day of Atonement, you shall send the ram's horn round. You shall send it through all your land to sound a blast, and so you shall hallow the fiftieth year and proclaim liberation in the land for all its inhabitants. You shall make this your year of jubilee. Every man of you shall return to his patrimony, every man to his family. The fiftieth year shall be your jubilee. You shall not sow, and you shall not harvest the self-sown crop, nor shall you gather in the grapes from the unpruned vines, because it is a jubilee, to be kept holy by you. You shall eat the produce direct from the land.

The above words and many which follow them, but which I will not quote (as anyone can refer to the Bible for the full account), were spoken by God to Moses on Mount Sinai, and are Jehovah's directions as to what the Israelites must do. It is even more significant that Jehovah is made to say much later in the same speech, all of which has been devoted to his talk of his fifty-year jubilee and

what must be done about it by the Israelites: . . . for it is to me that the Israelites are slaves, my slaves whom I brought out of Egypt. I am the Lord your God.' Remember that Egypt as the source of the Sirius tradition had had 'brought out' of it the Sirius mysteries and traditions by Danaos to Argos, *etc.*

What, then, of the forty-nine versus the fifty? Perhaps for explanation we should return to Robert Aitken's book *The Binary Stars*.TM In discussing the length of time of the orbit of Sirius B around Sirius A he says: 'Thus, Volet's orbit, computed in 1931, which differs very little from my own, published in 1918, has the revolution period 49-94, whereas Auwers gave 49-42 years' - the point being that the orbit of Sirius B takes between forty-nine and fifty years and is somewhat less than fifty.

The Aitken book also firmly informs us that the orbit is an ellipse, as are the orbits of all heavenly bodies. But of course, when speaking generally of the orbit of Sirius B one does not say 'the ellipse', one says 'the circle'. We say in common parlance: 'The planets circle round the sun,' even though we know their orbits are elliptical. And most mentions of the orbit of Sirius B in our sources are to 'the circle'. But, naturally, the Dogon draw a specific ellipse in the sand to represent the orbit of Digitaria (Sirius B). Figure 6 clearly compares the Dogon tribal diagram of the orbit of Sirius B around Sirius A with a modern astronomical diagram of the same.

We have already seen near the beginning of the book how the Dogon not only know that the orbit of Sirius B around Sirius A is an ellipse, but they also know the astounding principle of elliptical orbits whereby that body around which the orbit takes place inevitably tends to be at one of the two foci of the ellipse. For the Dogon specifically say: 'Sirius... is one of the centres of the orbit of a tiny star Digitaria'. Kepler first formulated this principle as a law of planetary motion - a revolutionary step forward in Western science. The Dogon also describe the orbit of the 'Star of Women' (a planet around Sirius C) as forming an ellipse with Sirius C at one of the centres.

Now, in light of the dithering over forty-nine and fifty just referred to, and the references to seven times seven equals forty-nine, seen in the light of the fact that the orbital period of Sirius B is between forty-nine and fifty years, which

can be well accommodated as Graves says of the Sacred Year, 'fifty months, or of forty-nine in alternate years', thereby balancing out to a close approximation to reality by alternating the count successively as fifty years, then forty-nine years, then fifty years ... etc., one can understand why the orbit of Sirius B around Sirius A is 'counted twice to be a hundred years', as the Dogon say and as was done in Egypt and in Greece, and which led to the double-Sacred Year of one hundred and the Greek goddess Hekate which means 'one hundred', and the hundred-handed ones of Greek mythology, *etc.* It was because orbits of Sirius B had to be counted in pairs in order better to approximate a whole number. And the fact that this was the case among the Dogon and the people of the Mediterranean area seems to confirm beyond all doubt that the Sirius tradition of the Dogon is a survival of the Mediterranean (namely, Egyptian) tradition brought by the ancestors of the Dogon from the Garamantes Kingdom of Libya where it had been taken by the Minyan immigrants.

It is also significant and conclusive that the Dogon specifically say: 'The period of the orbiting of Digitaria is about fifty years and corresponds with the first seven reigns of seven years each of the first seven chiefs ...' And: 'This rule was in operation for forty-nine years for the first seven chiefs who thus nourished the star and enabled the star to periodically renew the world. But, the eighth chief having discovered the star ...', etc., combining also the sacrifice of the sacred chief concept emphasized over and over by Graves in his many references to the Sacred Year of fifty months. This passage from Griaule's account of what the Dogon told him almost reads like a straight quotation from the Book of Leviticus in the Bible. Or from *The Greek Myths* by Graves! Can there be any further doubt that the two traditions are identical? That the Dogon brought it from the Mediterranean world into an obscure wilderness area where it has survived the ravages of time and empire amazingly intact and specific? And that the Mediterranean tradition in turn really was about Sirius and the orbit of Sirius B, the *great invisible*?

The Dogon tribe are really the last of the Argonauts, from whom they are quite literally descended - being Minyans in the middle of West Africa.

To go on examining the Egyptian language would be superfluous to our present intentions. So would a continued elucidation of Sumerian religious names from

Egyptian. But it would be just as well to fill in a bit of information on that transition which brought our Mediterranean Sirius tradition south from Libya to the Niger River. Herodotus told us how the Garamantes of Libya had been pushed further and further westwards and southwards. Graves says they were forced down to the Fezzan in the desert regions of south Libya. We find a further account in *A History of West Africa* by J. D. Fage:¹⁷

Herodotus, writing about 450 B.C., speaks of the Garamantes, that is the people of the oasis of Djerma in the Fezzan (who in modern terms would be accounted Tuareg), raiding the 'Ethiopians', *i.e.* black-skinned peoples, across the Sahara in two-wheeled chariots each drawn by four horses. About 400 years later, another great early geographer, Strabo, says much the same of the Pharusii of the western Sahara, who may perhaps be equated with ancestors of the Sanhaja.... The chariots of the Garamantes and Pharusii were very light fighting vehicles, unsuitable for carrying trade goods, but it is a point of considerable interest that Herodotus's and Strabo's accounts of their activities have been confirmed and given added point by the discovery on rocks in the Sahara of some hundreds of crude drawings or engravings of two-wheeled vehicles each drawn by four horses. The most significant aspect of these drawings is that they are almost all distributed along only two routes across the Sahara, a western one from southern Morocco towards the Upper Niger, and a central one running from the Fezzan to the eastern side of the Niger bend.

In *The White Goddess*, Robert Graves says also of the Garamantes :^{1a}

Herodotus was right in stating on the authority of the Egyptian priests that the black dove and oracular oak cults of Zeus at Ammon in the Libyan desert and of Zeus at Dodona were coeval. Professor Flinders Petrie postulates a sacred league between Libya and the Greek mainland well back into the third millennium B.C. The Ammon oak was in the care of the tribe of Garamantes: the Greeks knew of their ancestor Garamas as 'the first of men'. The Zeus of Ammon was a sort of Hercules with a ram's head akin to ram-headed Osiris, and to Amen-Ra, the ram-headed Sun-god of Egyptian Thebes from where Herodotus says that the black doves flew to Ammon and Dodona.

In his fascinating book *Lost Worlds of Africa*,¹⁹ James Wellard in Book Three, 'The People of the Chariots', discussed the Garamantes and related topics at some length. One of the most amazing elements in the story concerns an apparently lost civilization sitting under the sands of the Sahara which once was the centre of the Garamantian empire, and which was dispersed by the Moslem Arab invaders.

Wellard describes this civilization in suitably mysterious terms:

On the track which runs across the desert from Sebha, the modern capital of the Fezzan, to the oasis of Ghat on the Algerian border, the traveller crosses an underground water system that has few parallels for ingenuity and effort in African history... . Seen from inside, the main tunnels are at least ten feet high and twelve feet wide and have been hacked out of the limestone rock by rough tools, with no attempt to smooth the surface of the roof and walls_____

How many of them actually remain is still not certain, though hundreds of them are still visible. In places they run less than twenty feet apart and their average length, from the cliffs where they originate to the oases where they terminate, is three miles. If we assume from the 230 that remain visible that there may have been as many as 300 of them in this region of the desert, we have, taking into

account the lateral shafts, nearly 1,000 miles of tunnels hewn out of the rock under the desert floor.

We are still not clear as to how the system worked. First, where is the entrance to these tunnels ? One can spend hours trying to find their inlet, and though the solution would seem easy at first, assuming that a particular mound is followed along its entire length, the investigator finally arrives at a jumble of rocks at the base of the escarpment without being able to tell where the tunnel has disappeared to.... (the system possibly) presupposes an adequate and regular rainfall, in which case we have to go back as far as 3000 B.C. to find such a maritime climate in the Sahara Desert. Could the *foggaras* be that old ? ... Wells are the only water sources in the Wadi el Ajal today, and they are adequate for the present population of some 7,000 people. If we compare this figure with the 100,000 or more graves so far found in the Wadi and dating from the time of the 'people of the water tunnels', we can get some idea of how populous this region was. ... In addition, the construction of such an enormous hydraulic complex indicates an industrious and technologically advanced people who had reached a stage of culture superior to that of northern Europe before the Roman conquest.

We can, therefore, safely assume that (a) between 5000 and 1000 B.C. a cattle-raising and agricultural people belonging to the Negro race had occupied large areas of the Sahara Desert which they kept habitable and fertile by means of the *foggaras*; and (b) it was precisely the prosperity of these defenceless Africans that incited the white settlers along the Libyan coast to invade the Fezzan. These immigrants (originally, it seems, having come to Africa from Asia Minor) were the Garamantes, the people of the four-horse chariots -first mentioned by Herodotus, who describes them as already a very great nation in his time. They thereupon appear and disappear throughout the classical period until, around A.D. 700, they vanish altogether as the last of their kings was led away to captivity by the Arab invaders of the Fezzan. Their Saharan empire had lasted over a thousand years.

Yet we know almost next to nothing about the Garamantes, and the reason is obvious: with the fall of the Roman Empire, Africa became a 'lost' continent, so

much so that no European traveller reached even as far south as the Fezzan until the beginning of the nineteenth century.

I should add that it was the Emperor Justinian who destroyed North African civilization, before the Moslems came.

Wellard also says that in the Garamantian territory are myriads of tombs, pyramids, fortresses, and abandoned cities lying untouched by any archaeologist's spade. For instance, he visited 'the fortress city of Sharaba which lies out there in the desert gradually sinking beneath the sand. In the first place, perhaps not more than a few score European travellers have visited the site in any case, as it lies off the caravan routes in one of the more inaccessible pockets of the Mourzouk Sand Sea.... In point of fact, archaeological research in the country of the Fezzan has only just begun....'

After the Arab conquest of the Garamantian empire, the survivors fled southwest and 'fused with the Negro aboriginals on the south bank of the Upper Niger, and adopted their language', as Graves tells us in *The Greek Myths*,²⁰ and as he learned from the books of the anthropologist Eva Meyrowitz.²¹

So that is some more light on how the Dogon and related Negro tribes of the Upper Niger came to possess their amazing information. It is a tale of thousands of years, and the drama was enacted across thousands of miles, which only seems suitable considering the nature of the message they were to carry into a much different world - the global village of twentieth-century culture. According to the Dogon, 'the shaper of the world' visited the earth and returned to the Sirius system, having given men culture. Now that our race has set foot on another heavenly body and we are looking outward to our solar system, we are prepared to give serious consideration to any neighbours who might be within a few light years of us and have solar systems of their own which they inhabit and where they pursue their lives with the same desire to know, to learn, to understand, and above all to build a genuine ethical civilization, that motivates

the best of us. For if they are not so motivated it is doubtful that they will have survived their own technologies. In love one can live, but without love there is no world that will not poison itself. One must assume that any creatures living at Sirius will have come to terms with a wholesome and vital ethic. If Sirius is indeed the home of a 'shaper of the world', then it may encourage us, too, to become shapers of worlds.²²

Notes

1. Griaule and Dieterlen, *Le Renard pale*, op. cit., p. 44: 'The establishment of categories, of classifications, of correspondences, constitutes an armature comparable to the framework of a construction, to the articulated bone structure of a body. What imparts life to them - gives them their own physiology - is, for the Dogon, their relationship with God and with the order in the world he created, that is to say, with the way the universe was organized and functions today.'

'It is the myth that lights up the whole. Structures appear progressively in time and are superimposed, each one with its own special meaning, also with its own interrelations which are narrowly connected. That is what lends meaning to the succession of categories and stages of classification, which give evidence of the relationships established between man and what is not of man in the universe.'

For a more complete account of how the armature of symbolic interrelationships extends even to the smallest daily action or object for the Dogon, one should read the entire section 'The Thought of the Dogon', pp. 40-50, in *Le Renard pale*. This section expresses quite well the mentality required to function within a society grounded in reality at all levels. The one drawback to such patterns of thought is that they can ossify if over-elaborated as a baroque

maze, and stultify free inquiry, as happened in the Middle Ages in Europe when the Church had the answer to anything, and anyone who disagreed could go fetch his rope and stake, make a bonfire, and commit himself to his divinity. There are dangers to anything; no system of thinking is perfect. Only the constant unremitting exercise of a free will and attention can regulate that most ill-regulated of organisms, the human personality, and keep it on course. 'Systems' all are panaceas, whether of thought or society, and all equally useless to the nonvigilant individual. The doctrine of the mean expressed in all sound philosophies is the doctrine of exercise of the attention at all times; the high-wire performer is the archetype of the successful man. (*Successful* not in terms of bank accounts, must I add?) 2. Wallis Budge, Sir E. A., *Osiris and the Egyptian Resurrection*, 2 vols., London, 1911, Vol. II, pp. 294-5.

3-Plutarch, op. cit. This essay in vol. discussed in my Appendix IV.

4. Budge, op. cit., Vol. I, p. 156.

5. Ibid., Vol. I, pp. 389-90.

6. Ibid., Vol. I, pp. 106-7.

7. *Osiris*, op. cit., Vol. I, p. 93.

8. Ibid.

9. *Gods of the Egyptians*, op. cit., Vol. II, p. 164.

10. *Osiris*, op. cit., Vol. II, p. 311.

11. Ibid., Vol. II, p. 341.

12. See Wallis Budge, Sir E. A., *An Egyptian Hieroglyphic Dictionary*, London, 1920.

13. See Note 6.

14. See Note 12.

15. *Greek Myths*, op. cit., 60.3.

16. *The Binary Stars*, p. 238.

17. Fage, J. D. *A History of West Africa*, Cambridge University Press, 1969, pp. 14-16.

18. Op. cit., p. 182 (Chapter Ten under 'D for Duir').

19. Wellard, James. *Lost Worlds of Africa*, Hutchinson, London, 1967; also reprinted by The Travel Book Club, London, 1967.

20. Op. cit., 3.3.

21. See Notes 11 and 12 to previous chapter.

22. Since publication I have discovered in Wallis Budge's *Egyptian Magic*, pp. 61-2 a discussion of the amulet of *shen* 'intended to represent the sun's orbit ... (which) became the symbol of an undefined period of time ... the cartouche ... has been supposed to be nothing more than *shen* elongated ...' Printing of the cartouche hieroglyph here would be too difficult; it may be seen in the book mentioned above, and is familiar as the ellipsoid shape in which proper names are contained in Egyptian inscriptions. I now believe that this 'stretched' or 'elongated' *shen* may originally have been meant as a specific depiction of an elliptical orbit by ancient Egyptians.

SUMMARY

In ancient Egyptian, the hieroglyph and word for 'goddess' also means 'serpent'. The hieroglyph for Sirius also means 'tooth'. Hence 'serpent's tooth' is a pun on 'the goddess Sirius'. In the *Argo* story, Jason sowed the 'serpent's teeth', an idea which must originally have stemmed from this Egyptian pun. The Greek word for 'the rising of a star' also refers to 'the growing of teeth from the gum'. Therefore when the serpent's teeth were sown in the ground, they grew up from it as from a gum - that is, the star Sirius ('serpent's tooth') rose over the horizon.

Thus we see the mythological code language of sacred puns in operation. Behind the myths lay concealed meanings which are decipherable by returning to the hieroglyphics and finding synonyms which form puns.

Another Egyptian word meaning 'tooth' means 'to traverse a path in steps' and 'to make strong', and is used in connection with Anubis in such a way that could be 'the counter of months while traversing the path'. A synonym means 'one hundred' and 'Sirius'. We thus have; 'counting one hundred months while traversing the Sirius path'. But Anubis who does this is 'a circle'. So we have; 'counting one hundred months while traversing the circular Sirius path'. Change months to years (as Moses might have done?) and we have two fifty-year orbital periods of Sirius ,B.

We see that the ancient Egyptians had the same Sirius tradition which we have encountered from the Dogon tribe in Mali. We know that the Dogon are cultural, and probably also physical, descendants of Lemnian Greeks who claimed descent 'from the Argonauts', went to Libya, migrated westwards as Garamantians (who were described by Herodotus), were driven south, and after many, many centuries reached the River Niger in Mali and intermarried with local Negroes.

The Dogon preserve as their most sacred mystery tradition one which was brought from pre-dynastic Egypt by 'Danaos' to the Greeks who took it to Libya

and thence eventually to Mali, and which concerns 'the Sirius mystery'. We have thus traced back to pre-dynastic Egypt well before 3000 B.C. the extraordinary knowledge of the system of the stars Sirius A, Sirius B, and possible 'Sirius C' possessed by the Dogon.

We have thus managed to rephrase, if not to answer, the Sirius question. It is no longer; 'How did the Dogon know these things?' It is now: 'How did the pre-dynastic Egyptians before 3200 B.C. or their (unknown) predecessors know these things ?'

What is the answer to the Sirius question? We do not know. But knowing the right questions is essential to an eventual understanding of anything. The many investigations which should properly follow upon the asking of the Sirius question may give us more answers than we could at present imagine.

Archaeologists have a difficult task trying to explain the many similarities between Sumer and Egypt, indicating some still undiscovered common origin for the two cultures - an entirely forgotten civilization whose remains must exist somewhere.

But in considering the very origins of the elements of what we can call human civilization on this planet, we should now take fully into account the possibility that primitive Stone Age men were handed civilization on a platter by visiting extraterrestrial beings, who left traces behind them for us to decipher. These traces concerned detailed information about the system of the star Sirius which is only intelligible to a society as technologically advanced as ours today. Today was the time when we were meant to discover these coded facts, I feel sure. Today is the time we should prepare ourselves to face the inevitable reality that extraterrestrial civilizations exist, and are in all probability far more advanced in culture than we ourselves - not to mention in technology which could enable them to travel between the stars!

It may be difficult for us to avoid seriously entertaining that most disturbing and also exciting of notions: that intelligent beings from elsewhere in the galaxy have already visited Earth, already know of our existence, may possibly be

monitoring us at this moment with a robot probe somewhere in our solar system, and may have the intention of returning in person some day to see how the civilization they established is really getting on.

PART THREE

Beyond the Mystery

CHAPTER SEVEN

A Fable

Once there was a little girl sitting by the seashore. Her mother had told her to go and play. She watched the waves and thought: 'If only something marvellous would happen to me today!' The sun was shining very hot upon the strand and the girl became drowsy. The sound of the quiet surf was like a lullaby. She began to doze.

Suddenly she awoke. The air was alive with a new coolness, a haze had lifted, everything was startlingly clear to the sight. Far out, she glimpsed a flash in the sea, then another flash, a glint of something in the sun. There it was again - something coming towards the shore and making its way through the waves. It must be a porpoise. The girl was terribly excited. Something was happening to make her day memorable. Now she would not have to sit by the seashore and be bored.

Now that the porpoise was getting nearer, it alarmed the girl. Could it be about to crash against the sand, as she had heard giant whales did from time to time in despair? Was it a dolphin actually intent on self-destruction ? The girl ran hurriedly towards the spot which seemed to be the dolphin's objective. She saw its tail fin, quite close, appear for a moment. Some seaweed it seemed to be trailing with it showed through the water. It was a bright, almost shiny, porpoise ... it was now near the sand... what would it do? She could see it now, through the water. It stopped. It seemed to be grovelling in the sand. Its tail splashed up, then down. It remained stationary.

The poor dolphin had crashed into the sand. Full of pity, the girl began to wade out towards it. But it moved away slightly. It wasn't stuck in the sand. It was looking up at her from under the water. What could it be trying to do? The girl went back to the shore. The fish now moved in closer again. From quite near to the fish, a woman put her head above the water. She had silver make-up on her

face and eyes that went up. The little girl was worried about the fish. 'Have you got hold of the dolphin?' she asked the woman. Just beneath the woman's shoulders there was a noise like a swimming suit strap snapping against her skin. She replied to the girl with a fixed stare and s.m.—io 197 a high wail which seemed to be a song. She moved towards the girl, her eyes never straying from her. Her eyes were clear blue, like the sky. It was as if there were two holes in her head and you could see the sky through them. Again her swimming suit strap snapped against her. Her eyes were like the hot sun. The girl wanted to go to sleep. The woman's eyes were like the sound of the surf. The girl sat down in the sand and tried to make herself see the woman more clearly. The woman's face appeared to be really silver.

The woman's chest showed above the water now. Her bosom was bare. Her swimming suit strap must have snapped. The woman's bosom was a beautiful silvery green and shiny in the sun. The woman seemed unable to go any farther. She stared at the girl and remained motionless, except for a slight swaying to and fro.

'Who are you?' asked the girl. 'Have you come from a boat?' The woman gave a long wail, but the expression on her face did not change. Then there was the snapping of the swimsuit again. But this time the girl saw that above the woman's bosom were two long thin slits, which had opened and snapped shut loudly as if they were muscles flexing, just under her beautiful sleek collarbones. The woman stirred as if she were resting uncomfortably on a high stool. She looked dissatisfied and, twisting her torso, she leapt forward and fell with a splash in the surf near where the girl sat. She had no legs. It was what the girl had thought was the dolphin. The woman was a mermaid. Her body stretched out long, sleek, shiny in the sun, with the surf rushing up past her and then retreating. She leaned on an elbow and raised her dolphin's tail slightly in the air, then tapped the shallow water, and did so several times in the way that the girl herself tapped her fingers on her desk at school sometimes.

The mermaid had no scales like an ordinary fish. Her skin was like that of the dolphins in the aquarium who jumped through hoops. But she was more silvery and more green. And there was a kind of hair streaming down her back like thin seaweed, which looked brown, or silver, or green, or grey, or even black. It was

all those colours. And still the mermaid tapped her tail against the surf and stared at the girl. She was very much like a naked woman. She looked like the girl's mother did when she hurried to put on her dressing-gown before a bath.

Once again there was the snapping noise, only quieter. The girl saw the long thin slits in the woman's chest open and close instantly. Then the woman made a low, pleasant humming sound and looked sleepy. She leaned forward and an amazing series of clicks and pops were apparently made by her in her throat, which the girl could see constricting and moving.

The girl stood up and said to her, 'I've never seen a mermaid before. Can I tell Mummy?' The mermaid seemed to reply by smacking a fin against her skin somewhere behind her, rocking, and making a long, loud hum. She leaned forward more and looked at the girl and her eyes seemed to gloss over and go green. She opened her mouth, little pointed teeth showed in pink gums, and a long whispering sound came out which sounded like the sea at a distance. She then beckoned the girl to her with her arm, and her webbed fingers.

The girl stood in the surf and touched the mermaid. 'You're so soft,' said the girl, 'not like fish are. I mean fish are soft, but you're so smooth.' The girl liked the mermaid. She had never seen anyone so smooth and silvery and beautiful. 'I bet you can swim better than ordinary people. I'm going to run and tell Mummy you're here!' The girl began to walk away. 'You won't go away, will you? Wait here!' And she made every effort to smile and signal her intentions. The woman seemed to nod in agreement. The girl ran quickly, looking back often to see if her mermaid woman would wait for her. The mermaid made no attempt to move, but merely watched the girl.

From a distance the mother could see something lying in the surf, as her daughter tugged at her skirts excitedly. 'It's something from a wreck,' said the mother.

'No, Mummy, it's a mermaid!' said the little girl.

'Don't be silly, darling, mermaids don't really exist. They're just in stories. Now what is it you've found?'

Then suddenly the thing in the surf moved. It was horrible, like a serpent. 'Oh! It's alive! It's moving! No!' and she turned and tried to push her little girl back home. 'I'm going to get Daddy. He'll know what to do. It may be a creature which is injured. Now come with me.'

But the little girl eluded her and ran towards the sea. 'No, Mummy, it's a mermaid! Come and see!'

Feeling sick in the pit of her stomach and apprehensive, the mother followed her daughter and feebly called after her. The girl quickly reached her friend from the sea, and the mother, seeing her standing beside the moving creature, cried, 'No! Get away! Get away from it!' She then ran and - it was a woman and fish, it was! It was silver. It was a mermaid! 'No, darling, no! Get away from it! It's horrible!' Her daughter came to her obediently and the mother stared in disgust and nausea at this awful slimy sea creature with a grotesque human frame grafted on to it - a monster, an abomination. She felt her stomach constrict, she gasped, she bent forward in the thought that she would be sick. 'God!' she gasped. 'Go home! Go home!' and pushed her daughter violently to make her run.

'What is it, Mummy?' asked the girl, who was now becoming terrified. 'Mummy I' she cried in alarm. Her mother was choking, eyes bulging, stumbling towards her with her flat palm outstretched to push her away towards home. 'Mummy! Mummy!' They heard a loud splash and turned just in time to see the mermaid slip away effortlessly at lightning speed into the deep water - gone instantly from sight.

'Oh God!' said the mother, as she clasped her head and fell to her knees on the sand.

'She's gone, Mummy. The mermaid's gone. But you saw her!'

The mother looked at her daughter as if the girl might at any moment herself turn into a mermaid. 'Oh darling, what was it? Tell me it isn't true!' said the mother, and put her head down into the hot, sharp sand.

A little story about a child and an adult and their different reactions to a strange, intelligent amphibian. To the child 'it could swim better' and was silvery and fascinating. To the mother it was repulsive and horrible.

In Appendix II the reader will find in English translation the surviving fragments of the lost *Babylonian History* written in Greek by a Babylonian priest named Berossus, who seems to have been an acquaintance of Aristotle and drew on his own country's temple archives (which were in cuneiform, of course) to compile the history of his country from original documents. The readership would have been the cosmopolitan inhabitants of the Hellenistic world created by the conquests of Alexander.

In his work, Berossus describes his country's tradition of the origins of its civilization. And the tale is a strange one. For a group of alien amphibious beings were credited by the Babylonians with having founded their civilization. The main individual of the group of amphibians is called Oannes. We have had occasion to refer to him earlier. There are several illustrations of him throughout this book (Plates, 6, 7, 8 and 9 and Figures 18 and 19). In somewhat later traditions than the ones Berossus drew on, Oannes became the fish-god of the Philistines known as Dagon and familiar to many readers of the Bible. By that time Oannes, as Dagon, had become an agricultural deity. In the surviving fragments of Berossus we have no reference to the Philistine tradition, and we shall probably never know whether Berossus mentioned it or not. But in the Berossus fragments preserved by the historian Apollodorus, we read that 'there appeared another personage from the Erythraean sea like the former, having the same complicated form between a fish and a man, whose name was Odacon'.

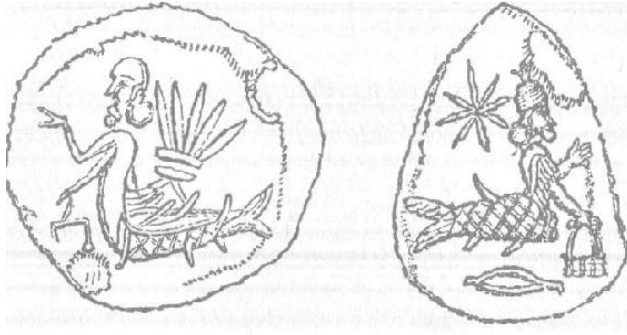


Figure 18. Fishtailed Oannes on gems in the British Museum. The representation on the right shows a star and eye of Osiris - an Egyptian hieroglyph on a Babylonian gem



Figure 19. Fishtailed Oannes from Assyrian cylinder seal. He stands before an omphalos stone covered in geodetic mesh with descending octaves on either side of it. The eye-star is above, and a 'mouth of Nommo' is to lower left

This seems fairly clearly to be a corrupted form of 'Dagon'. Unless 'Dagon' is a corrupted form of 'Odacon'.¹

Apollodorus criticizes Abydenus, who was Aristotle's disciple, for not

mentioning that there were other amphibious beings besides Oannes himself. He says: ‘concerning these Abydenus has made no

mention’. Apollodorus, therefore, seems to have given Berossus a close attention to detail which Abydenus, for his purposes, neglected. This is an extremely important point, as we shall now see. Berossus, according to the close account of Apollodorus, calls the amphibians by the collective name of ‘the Annedoti’. They are described as ‘semidaemons’, not as gods. For some time I thought that ‘the Annedoti’ must be a convenient and tradition-sanctioned name for these creatures. I was concerned to have a name for them because, as we learn in a moment, the Dogon tribe claim that amphibious creatures with fishtails founded their civilization too, and that they came from the system of the star Sirius. If there are intelligent creatures living on a planet in the Sirius system, it would seem from all the evidence that they are amphibious, resembling a kind of cross between a man and a dolphin. It is therefore necessary to come up with some name for these creatures if we are to discuss them from time to time.

With this in mind, I suddenly wondered what the word ‘Annedotus’, which is never translated in the Cory translations of the fragments of Berossus, could actually mean. I read once again the fragment of Berossus from the careful Apollodorus and scrutinized the translation of it, which was: ‘... in whose time appeared the Musarus Oannes the Annedotus from the Erythraean sea’. **The** Erythraean sea is that body of water known to the ancients which we today subdivide into the Red Sea, the Persian Gulf, and the Indian Ocean.

What was meant by the untranslated words ‘Musarus’ and ‘Annedotus’ ? Strangely enough, until I purchased my own copy of Cory’s *Ancient Fragments*,² I had never before noticed that the words ‘Musarus’ and ‘Annedotus’ were untranslated. In libraries, with a pressure of time, one tends to overlook these details. I also had overlooked this in the account of Apollodorus quoted by Carl Sagan in his *Intelligent Life in the Universe*.³ These are all reasons why I felt that I should include as an appendix to this book the complete surviving fragments of Berossus (excluding a couple unrelated to our concerns which may be found in the third and final, 1876 posthumous edition of Cory’s book). For unless all of the material is available and easy to hand, one invariably

overlooks something and neglects to make the frequent and necessary comparisons which enable one gradually to read between the lines and obtain additional insights.

It so happens that the most frequently cited version of Berossus's account is usually that preserved by Alexander Polyhistor.⁴ But that is where problems can begin. For Alexander Polyhistor does not use the words '*annedotus*' or '*musarus*' in his account. And the version preserved by Abydenus uses the word '*annedotus*' only as if it were a proper name: '... in his time a semidaemon called Annedotus, very like to Oannes, came up a second time from the sea . . . As for the word '*musarus*', Abydenus does not use it at all.

So I turned to the lexicon to find the meanings of these words. I assumed that Cory would have translated them into English if they had simple and obvious meanings. But to my surprise I found that their meanings were quite simple and specific. A '*musarus*' is 'an abomination', and an '*annedotus*' is a 'repulsive one'.

Now the reader may appreciate why I wrote the little fable. For the creatures credited with founding civilization in the Middle East were frankly described by the Babylonians who revered them and built huge statues of them (Plate 9) as being 'repulsive abominations'. If ever anything argued the authenticity of their account, it was this Babylonian tradition that the amphibians to whom they owed everything were disgusting, horrible, and loathsome to look upon. A more normal course for any invented tradition of the origins of civilization would have been to glorify the splendid gods or heroes who founded it. But instead we find specific descriptions of 'animals endowed with reason' (Alexander Polyhistor's account) who make their awed and thankful beneficiaries want to be sick with revulsion. And what is more, the tradition admits this freely!

The problem of revulsion is a difficult one. It seems to be partly a result of what we are taught when young. No doubt psychologists would have a great deal more to say about it. But whatever origins it may have, it seems to be almost uncontrollable once a propensity to it has developed. If someone finds snakes or spiders repulsive, it would take a great deal of persuasion to get him to change his attitude, and the chances of success are minimal at best. As humans, we tend

to dislike all slimy creatures, creepy-crawling creatures, creatures which ooze or slither or wriggle. Indeed, people who have a pronounced fondness for such creatures often seem to be suffering from a pathological condition themselves. I once knew a girl who kept a pet boa-constrictor in her bedroom, next to her bed for 'company'. She fed it a live mouse every Thursday and she loved to watch it being eaten alive. She loved more than anything to hear the snake at night in the dark when it made a curious slithering fall against the side of its tank; this excited her greatly. Now, I do not wish to criticize the girl for her strange tastes but I think most readers will agree that the girl had somehow transformed the interest in a snake into something else. And that kind of substitution is the promotion of a fantasy which can probably be classed as pathological, though possibly not dangerous to anyone (except the mice).

Granted all these circumstances of human relationships to slithery creatures and the problem of revulsion in general, it does strike me as a most superb irony that a race of intelligent beings may really exist in our near neighbourhood of space who are slimy and repulsive, and yet who have founded many of the elements of our own human civilization and have a technology sufficiently advanced to enable them to travel between the stars. Indeed, when all other pleasures in life fail, the one remaining is a delight in irony. I recommend it, both to men and Annedoti.

According to Berossus as preserved by Alexander Polyhistor, the amphibians look like this:

The whole body of the animal was like that of a fish; and had under a fish's head another head, and also feet below, similar to those of a man, subjoined to the fish's tail. His voice too, and language, was articulate and human; and a representation of him is preserved even to this day. . . . When the sun set, it was the custom of this Being to plunge again into the sea, and abide all night in the deep; for he was amphibious.

Who was Berossus, and how reliable was he? It is best to quote Cory's own preface for the information:

Berossus, a Babylonian, flourished in the reign of Alexander, and lived some

time at Athens: and according to many wrote his Chaldaean history in the Greek language. As a priest of Belus he possessed every advantage, which the records of the temple and the learning and traditions of the Chaldaeans could afford; and seems to have composed his work with a serious regard for truth. He has sketched his history of the earlier times from the representations on the walls of the temples: from written records and traditionary knowledge, he learned several points too well authenticated to be called into question; and correcting the one by the other has produced the strange history before us.... The first book of the history opens naturally enough with a description of Babylonia... . The second book appears to have comprehended the history of the antediluvian world; and in this the two first fragments ought to have been inserted.

As for two of those later writers who preserve fragments of Berossus, Abydenus the disciple of Aristotle wrote an *Assyrian History*, now lost, and Megasthenes wrote an *Indian History*, also lost. None of the four writers who have preserved Berossian fragments has had any of his own writings survive intact either. Later writers such as Eusebius, the

Christian historian of the fourth century A.D., and Syncellus, the ninth-century A.D. Byzantine historian, have preserved in turn all of the fragments of Berossus which the earlier writers had quoted in their own works. For it seems that the original of Berossus was lost long before the originals of Abydenus, Apollodorus, Megasthenes, and Alexander Polyhistor. And unless some obscure Byzantine monkish library or Egyptian papyrus of Hellenistic date or Babylonian tablet produces new fragments, we may never know more about Berossus than we do now at third hand. But at least my Appendix II should be a help. For it will be the first time since 1876 that the fragments of Berossus will have been published.⁶

Let us take a look now at what the Dogon tribe have to tell us about the amphibious creatures who are credited with founding their civilization as well, and who seem to have come from Sirius. In Figures 20 and 22 are Dogon tribal drawings of what the creatures actually looked like. They are credited with having descended in an ark which, in landing, looked like Figure 23 which portrays 'the spinning or whirling of the descent of the ark'. The god of the

universe, Amma (whose name I feel certain is a survival of that of the god Ammon of the Oasis of Siwa), sent the amphibians to earth. They are called the Nommos. But just as the Babylonians tended to speak of Oannes, the leader, instead of always saying 'the Annedoti' collectively, the Dogon often just speak of 'Nommo' or 'the Nommo' as an individual. The Nommos are collectively called 'the Masters of the Water' and also 'the Instructors', or 'the Monitors'. They have to live in water: 'The Nommo's seat is in the water'.⁶ The latter is much like the Babylonian tradition of their god Ea (Enki to the Sumerians), whose seat was also in the water, and who is sometimes connected with Oannes.

The descriptions of the landing of the ark are extremely precise. The ark is said to have landed on the earth to the northeast of Dogon country,⁷ which is where the Dogon claim to have come from (originally, before going to Mande) and that is, of course, the direction of Egypt and the Middle East in general.

The Dogon describe the sound of the landing of the ark. They say the 'word' of Nommo was cast down by him in the four directions as he descended, and it sounded like the echoing of the four large stone blocks being struck with stones by the children, according to special rhythms, in a very small cave near Lake Debo.⁸ (The reader will recall that near the end of Chapter One I mentioned that 'the word' represents a concept like the *logos* to the Dogon, for it means 'air'. We may take this description to refer not only to noise but to a rushing wind.) Presumably a thunderous vibrating sound is what the Dogon

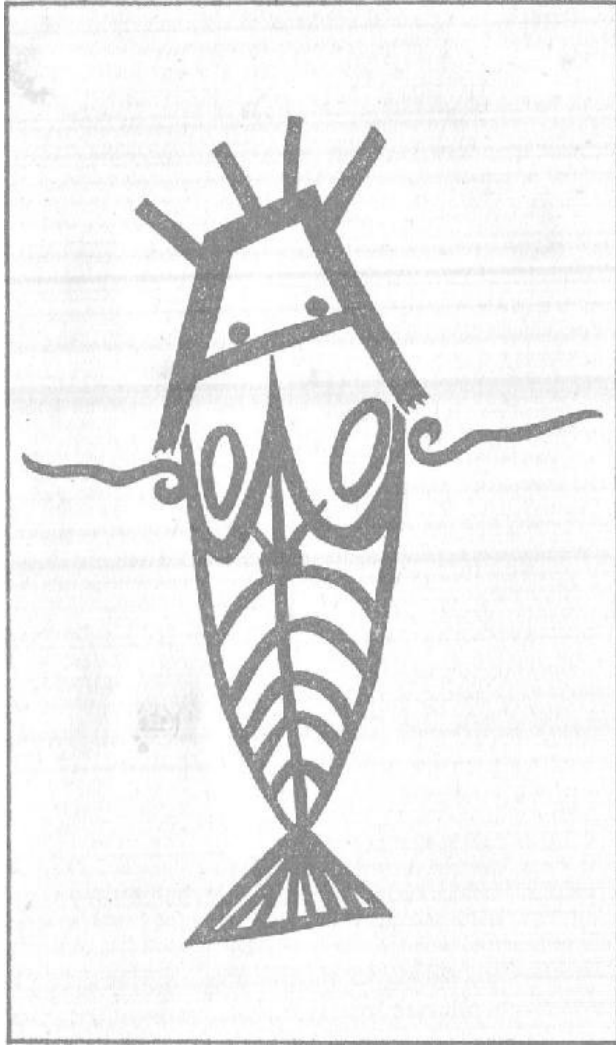


Figure 20. Dogon drawing of Nommo 206

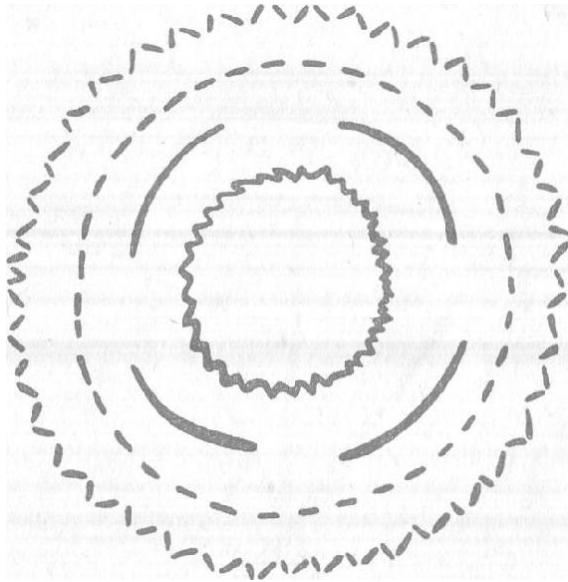


Figure 21. Descent of Nommo from the sky. Dogon drawing

are trying to convey. One can imagine standing in the cave and holding one's ears at the noise. The descent of the ark must have sounded like a jet runway at close range.

The landing of the ark is visually described:⁹ 'The ark landed on the Fox's dry land and displaced a pile of dust raised by the whirlwind it caused.' For this, see Figure 21. They continue: 'The violence of the impact roughened the ground ... it skidded on the ground.'

It is said of Nommo, or more probably of his ark: 'He is like a flame that went out when he touched the earth'. They say: 'The Nommo was "as red as fire" ... when he landed, he became white'.¹⁰ And consequently a bit of folklore: 'The albino is the testament on Earth of the Nommo's burns as he came down; he is said to be the 'trace of the burn", the scar of the Nommo.'¹¹ There seems to be a use by the Dogon of 'spurting blood' to

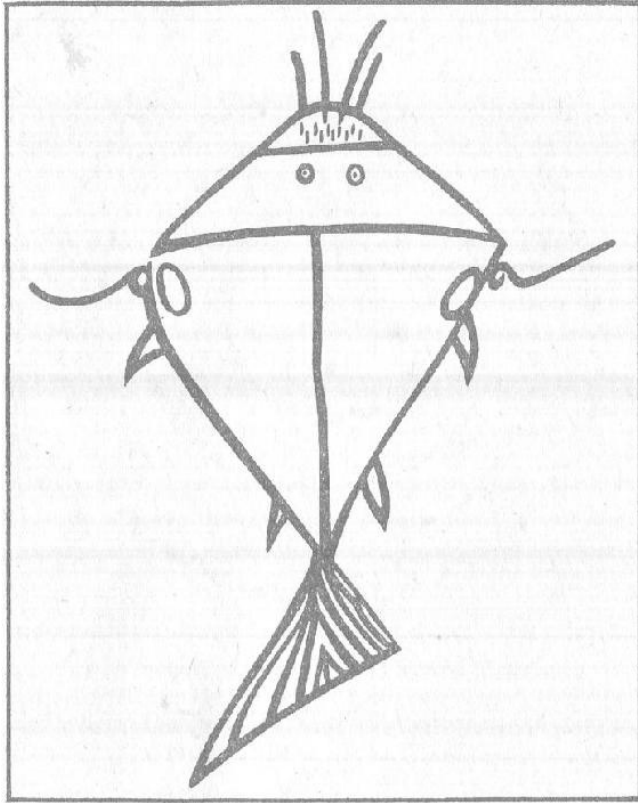


Figure 22. Dogon drawing of Nommo

describe what we would call 'rocket exhaust'. And let us remember that, short of anti-gravity machines (which may be impossible), rocket propulsion is likely to be used by craft landing on any planet, no matter how sophisticated and non-rocket-like the interstellar main craft, or no matter how immensely advanced the civilization may be which is making a landing on a planet. For the principle of the rocket is a simple one unlikely to be dispensed with entirely in any foreseeable future technology. Actually, the Dogon seem to make a clear differ-

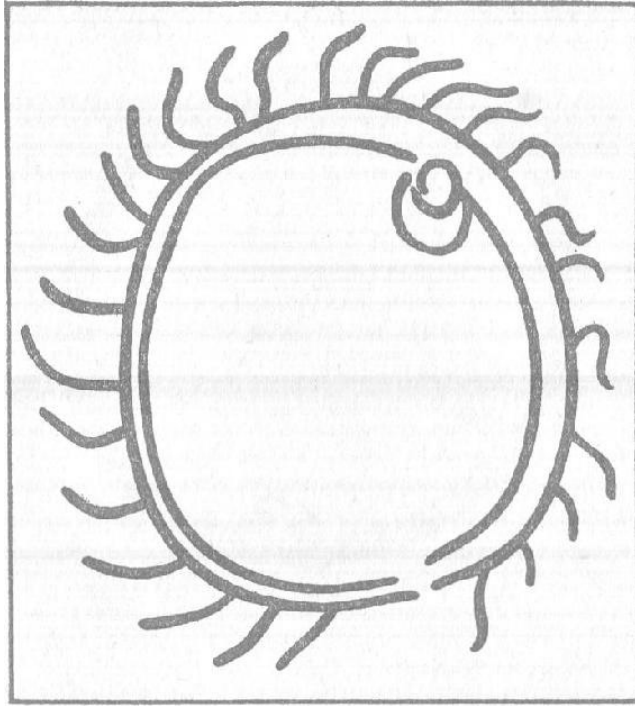


Figure 23. The whirling descent of the spaceship of Nommo. Dogon drawing

entiation between the ark in which the Normmos actually landed on earth and what we may surmise was the true interstellar spaceship hovering above in the sky at a great distance, and which the Dogon seem to describe as appearing in the sky as a new star, and leaving with the Nommos at their departure from Earth. In fact, this is the sort of arrangement one would expect. An interstellar spaceship would probably look like a bright new star, possibly visible in daytime as well as by night, and the landing craft would be simple rocket-propelled craft not so different in principle from machines which we use at the present time for landing on the moon.

At this point I should make it clear that I do not believe that spaceships from extraterrestrial civilizations are flitting through the skies at

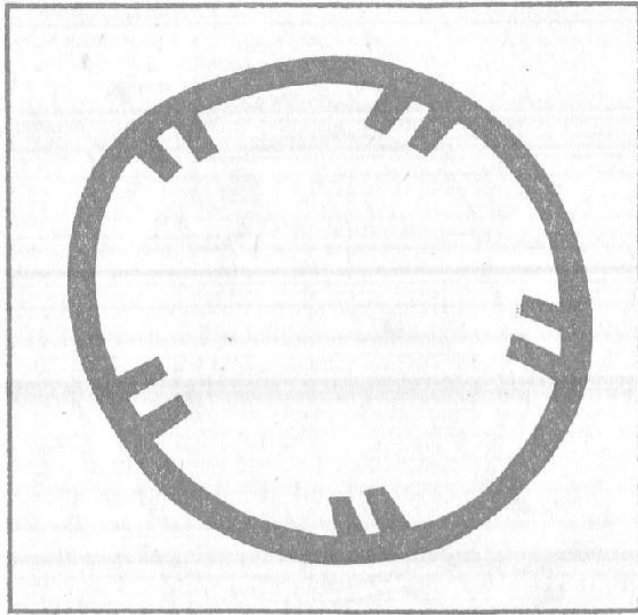


Figure 24. Dogon drawing of *iepelu tolo*; the ten rays, in pairs, are inside the circle, having not yet 'emerged'

this moment. I am not a 'flying saucer' enthusiast. I do not believe that spacecraft would behave in the erratic fashion in which UFOs behave. It makes no sense to me that spacecraft would fly idly around making spectacles of themselves - and ambiguous spectacles at that - for years on end. If we went to another inhabited planet, would we waste either time or resources on such apparent nonsense? What seems to be lacking in UFOs is purpose, of any kind, which could conceivably fit into a framework of extraterrestrial visitation. So I therefore do not believe that 'flying saucers' are spacecraft, although I am willing to admit I may be wrong. I have encountered nothing but flak from both sides about this - believers in flying saucers are incredulous that I am not one of them, since I have written a book on extraterrestrials and I even maintain that spaceships visited Earth in the past; those who do not entertain for one moment the notion that spaceships could ever have visited the Earth naturally assume that my

book is about flying saucers. I should add, however, that I feel certain that the Earth is being monitored at this moment by a more advanced extraterrestrial

civilization, and I assume this monitoring must be by automatic computer probes left behind in this solar system at some time in the past. Although I consider most so-called UFO sightings as pure hysteria or simple error, it is possible that a small percentage of UFOs may be what the devout 'believers' in UFOs claim they are. It is unfortunate that this subject has become so burdened by the oppressive enthusiasm of people whom I can only describe by the unflattering epithet of 'the lunatic fringe'.

The Dogon may describe the interstellar spaceship hovering high above the Earth by what they call *ie pelu tolo*, 'star of the tenth moon'. The Dogon say: 'As (the ark) landed, the weight of the ark caused the "blood" to spurt to the sky.'¹² This would seem to be a rocket craft landing on earth. But this 'spurting blood' (flame?) is said to be shared with *ie pelu tolo*, and 'gave the star reality and brilliance'.¹³ For three different complementary tribal drawings of *ie pelu tolo*, see Figure 25. These seem to represent the 'star' in three separate conditions, differing in the amount of 'spurting blood' being emitted by the presumed spacecraft. The Dogon also describe this 'star' specifically as having a circle of reddish rays around it, and this circle of rays is 'like a spot spreading' but remaining the same size.¹⁴

It is said that the Nommos will come again. There will be a 'resurrection of the Nommo'. It should thus not surprise us that 'the celestial symbol of the resurrection is the "star of the tenth moon", *ie pelu tolo* . . . This star is not easy to see. . . . The ten rays, placed in pairs, are inside the circle because the star has not yet "emerged"; it will be formed when the Nommo's ark descends, for it is also the resurrected Nommo's "eye" symbolically.'¹⁵ In other words, the 'star' is not a star, and can only be seen when the Nommo returns and his ark descends to Earth.

The Nommo is 'the monitor for the universe, the "father" of mankind, guardian of its spiritual principles, dispenser of rain and master of the water generally.'¹⁶ Not all the Nommos came to Earth. The 'one' called Nommo Die, or 'Great Nommo', remained 'in heaven with Amma, and he is his vicar'.¹⁷ He manifests

himself in the rainbow, which is called 'path of the Nommo'.¹⁸ He is guardian of the 'spiritual principles of living creatures on Earth'.¹⁰

There are three other distinct kinds of Nommo, each personified as an individual. There is the Nommo Tityayne, 'messenger (or deputy) of the Nommo Die ... he (executes) the latter's great works.'²⁰ The Nommos who came to earth in the spaceship are presumably of

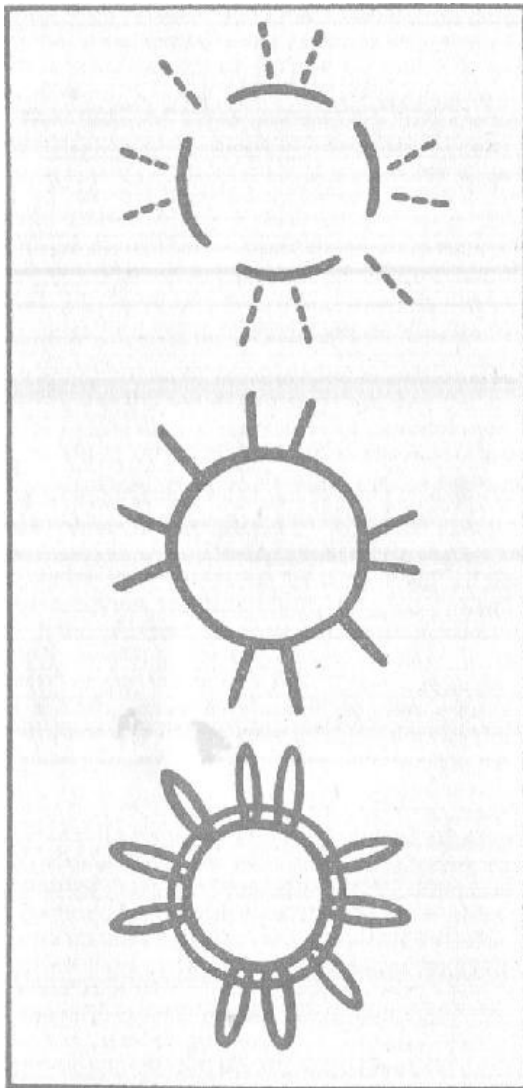


Figure 25. Three states of *ie pelu tola* in the sky. Dogon drawing

this class. Figures 20 and 22 represent these beings in particular.

A third class of Nommos are represented by O Nommo, 'Nommo of the pond'. 'He will be sacrificed for the purification and reorganization of the universe ... He will rise in human form and descend on Earth, in an ark, with the ancestors of men ... then he will take on his original form, will rule from the waters and will give birth to many descendants.'²¹

The fourth Nommo is the naughty disrupter named Ogo, or Nommo Anagonno. 'As he was about to be finished (being created) he rebelled against his creator and introduced disorder into the universe. Eventually, he will become the Pale Fox (le Renard p31e) which is the image of his fall.'²² In many ways, the Fox resembles the Egyptian deity Set.

The name Nommo comes from a Dogon word linked to the root *nomo*, 'to make one drink'. It is said: 'The Nommo divided his body among men to feed them; that is why it is also said that as the universe "had drunk of his body" the Nommo also made men drink. He also gave all his life principles to human beings.'²³ He was crucified on a *kilena* tree which also died and was resurrected.²⁴

After the ark had landed, according to the Dogon, an interesting series of events took place which make a great deal of sense if one remembers that amphibious creatures were inside. Something described both as a 'horse' and just simply as a 'quadruped' appeared which pulled the ark with ropes to a hollow.²⁶ 'This stage, momentarily, transformed the ark into a chariot drawn by a quadruped with ropes.'²⁸ The hollow then filled with water. However, an untoward incident then occurred: 'After the first rainfall, when the water had filled the pond, the water-insect... entered the water ... it wanted to "bite" the Nommo's head ... but it was unable to reach the edge of the ark.'²⁷

The bad 'water-insect' was thus unsuccessful in wishing to do harm. When the water filled the pond, the ark floated on it like a huge pirogue. ... It is said: 'The great ark came out of the sky and came down. In the centre the Nommo was

standing, he came down. Then he returned to the water.’... From then on he was called 0 Nommo, ‘Nommo of the pond’, - through respect men will not utter this name, but will call him instead *di tigi*, ‘master of the water’.²⁸

Thus we see that the second and third categories of Nommo are really the same, but represent successive states. And as for the future:

His twin who will descend later on with the Blacksmith, ‘twin of the

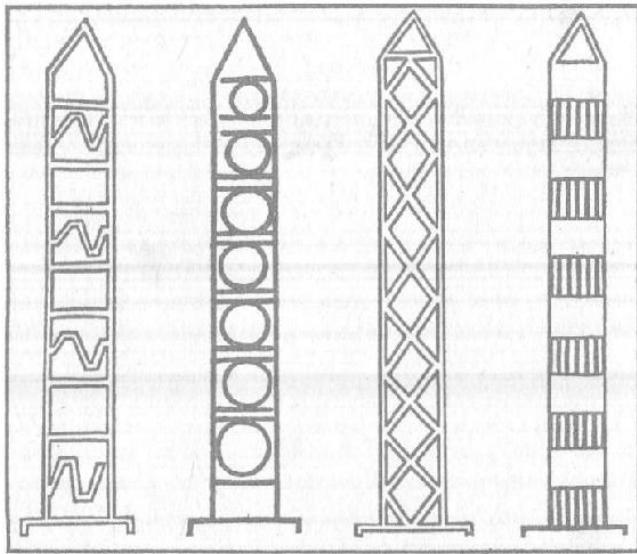


Figure 26. Sirigi designs of Dogon

victim’, will also be transformed in the pond. They will have many descendants and will always be present in the fresh ‘male’ water of the brooks, rivers, ponds and wells and also in the ‘female’ sea water.²⁹

As for this reference to fresh water as male and sea water as female, it is similar to the ancient Babylonian and Sumerian tradition where Apsu (Abzu) was a male fresh-water deity and Tiamat a female sea-water deity. The Dogon say,³⁰ ‘O Nommo has his seat in the waters of the earth’, which could just as well be a

description of Enki/Ea, whom I mentioned above.

I feel impelled to reproduce in this book as Figure 26 a Dogon drawing showing four variants of the Dogon *sirigi* mask design. Anyone can see that they look like rocket ships. Griaule and Dieterlen give³¹ detailed accounts of the meanings of the lozenges, rectangles, *etc.* These variant designs are said specifically all to represent ‘the descent and impact of the ark’.³² The descent of the ark was like a lozenge, its impact was like a rectangle.³³ Perhaps this is why the Dogon say:

‘When the ark was descending, space was four angles; when the ark was down, space had four sides.’⁸⁴ The *sirigi* design itself represents ‘a “house with stories” ... (and) indicates the ark as well as its descent.’³⁵ So maybe the Dogon have actually drawn a rocket ship.

The Dogon say³⁶ that *lpo tolo* (Sirius B) and Sirius were once where the sun now is’. That seems as good a way as any to describe coming to our solar system from the Sirius system, and leaving those stars for our star, the sun. But let us now take leave of our friends the Dogon. Let us go to where Sirius and its white dwarf companion star are the suns, and where our own sun has become just another star in the sky. Let us visit the planet of the amphibians.

What are Sirius and Sirius B like as suns ? We know that they revolve around a common centre, which is in fact equivalent to Sirius B revolving around Sirius A in an elliptical orbit. Sirius A, a big, bright star, has two and a half times the mass of our sun. Sirius B has ninety-five per cent of the mass of our sun, but because it is made of degenerate matter and is so tiny, this is not obvious. If Sirius B with its mass were not a white dwarf, we could easily see it from earth as a star of magnitude 2, though the problem of parallax would make it difficult to separate it from Sirius A. In any case, if Sirius B were on its own somewhere at its distance from earth, and were not a white dwarf, it would be one of the brightest stars in the sky.

In reality, Sirius A is ten thousand times brighter than Sirius B. The luminosity

of Sirius A is thirty-five and a half times the luminosity of our sun. That makes it a pretty hot number. We can be certain that our planet is not too near it. The 'habitable zone' discussed in Chapter One is much farther out from Sirius than it is from our sun. As for the actual size of Sirius A, its radius is a little more than one and a half times the sun's radius. This means that Sirius will be smaller in the sky than our own sun, seen from the planet. It will be a good deal smaller, but will need to have roughly the same amount of heat, which is not too difficult, considering how terribly hot and bright it is. To us it would be a strange experience to see such a small body in the sky giving out so much heat and light. Looking directly at it would probably be as injurious as staring into an arc lamp. All the more reason to be under water, and not so tempted.

Our planet will probably be quite hot. In fact, it will probably even be covered with a vaporous layer of cloud at most or all times. It might look something like Venus from a distance, though of course Venus does not have temperatures or clouds of the sort which living creatures are likely to find agreeable. It would seem important to keep cool on this probably rather hot and steamy planet. Therefore intelligent life is likely to have evolved as amphibious and never have taken to the land. These amphibians might easily inhabit the surface of the water, of course, for they would need to breathe atmosphere and would not have gills like fish - they would probably need to be mammals of some kind in order to develop the brain sizes and other characteristics necessary for intelligence. They would probably spend a lot of time hanging about marshes and might have developed an indigenous way of life originally which involved the use of woven reeds for huts and transport, and so on. (They would long ago have got past that stage, of course.) But perhaps their first style of life, to which they may even look back with some nostalgia as 'the good old days of simplicity and a carefree existence', was something like that described by Wilfred Thesiger in his book *The Marsh Arabs*³⁷ in which the inhabitants of southern Iraq are pictured in the marshes of the lower Tigris and Euphrates (quite near where Oannes and his friends are said to have spent most of the time, one is tempted to note!).

If you were one of these creatures, you would be a good deal like a dolphin with arms and hands. You would, due to your amphibian nature, have a separate blowhole for breathing in addition to your mouth. You would be able to hold your breath for long periods, and when you did breathe through your blowhole,

it would be a gasp and make a bit of noise. Your blowhole would open and close almost instantaneously and your breathing would tend to be infrequent but loud and quick. The blowhole might be placed in such a way that it consisted of one or of two small slits, long and thin, just beneath your clavicles (collarbones). In fact, the Dogon have a tradition that their Nommos breathed through their clavicles.³⁸

You could not go about bare-skinned in any atmosphere for long. You would require moisture on your skin after a few hours at the most; when your skin dried you would be in absolute agony - worse than a human with sunburn. Because you would frequent the surface of the water a great deal, there would inevitably be a considerable contrast between the top half of your body and the bottom half. The tradition known to us of the mermaid expresses this state of affairs quite well. Your lower extremities would be quite fishlike, but you would have articulate limbs and fingers on your upper half and your skin would be more capable of resisting solar radiations and hence would be more like that of a land mammal. Probably cartilaginous structures would have evolved in your head to rigidify your features beyond the simple streamlined form required for a strictly undersea life, and there would be something on your upper body resembling hair - perhaps like the hair of our own walruses.

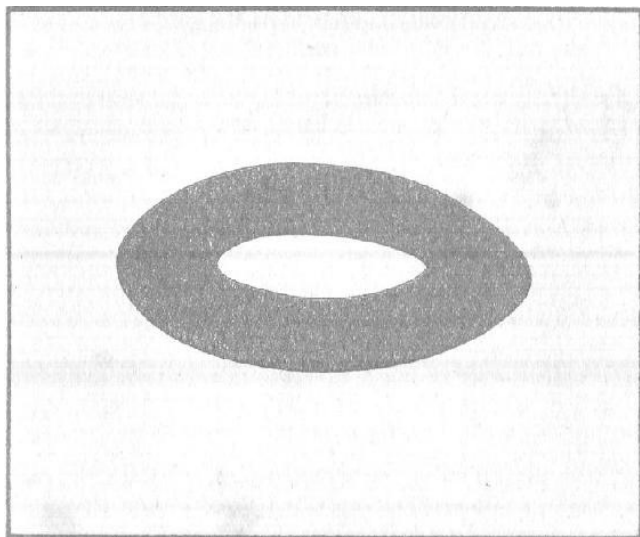


Figure 2j. The Nommo breathes through air-holes in his clavicles that look like this Dogon drawing of one.

Your teeth would probably be feeble compared with those of ferocious carnivores such as sharks. You would probably have evolved from more peaceful creatures capable of feeding on small fish in considerable numbers. Your ancestors would have run in packs as the dolphins do and you would be extremely sociable because you evolved in schools (packs). Nudity is probably the natural state of your species. Overpopulation is not one of your problems because most of your planet is water and all of the water is habitable. Even on the planet Earth, it is estimated that dolphins outnumber human beings two-to-one, and the oceans are hardly overcrowded.

As one of these creatures, you might find human beings repulsive, for many reasons. Their rough hair, dry skins, bony limbs, and particularly their pungent smells might disturb you greatly. Their sweat is not continually washed away in the way that your skin is continually cleansed by the watery medium which you inhabit. And as an amphibian you have exceedingly well developed senses of smell and taste. You 'taste' smells or spoor-substances underwater at enormous distances and though your sense of smell is not quite as acute, it is

s.m.—ii competent enough. Unlike yourself, human beings tend to have areas **217** in or near their dwellings which smell of their excrement and urine -places to which they habitually return to perform these functions. As an amphibian whose waste products dissipate in the water, you find such an idea revolting. How can human beings stand going back to those same odours day after day?

One of the most disturbing sights to you is to watch human beings walking. When humans stand still with their legs together, they look almost normal. But then suddenly they ‘split’ into two and begin walking, which makes you slightly dizzy and upsets you. It makes you feel nervous with the thought of how dreadful it would be for you if you ‘split’ and thereby became a cripple in the water. You admire the agility of the humans on dry land. They can climb trees and cliffs, all of which is terribly impressive. They can go at a great speed on land with what they call ‘running’, they even have a certain capacity to jump over obstacles; they are not as swift on land as you are in water, but they do passably well. You do have difficulty in seeing them sometimes because, as you are in a watery environment, your vision is not good at long range.³⁹ And the humans, being dry, do not stand out against their background as much as you could wish. When they move you can instantly detect motion without optical definition, but a stationary human who is even approximately camouflaged and blends with this background is impossible for you to differentiate with your unaided eye. You rely on your sense of smell, like a rhinoceros. But when the wind is against you, you have no hope. A human can easily elude your perception on dry land if he knows what he is doing and you do not have your goggles or technical aids with you.

You would have an extremely agile mathematical mind. Your ancestors developed from the primitive state by computing the intricate astronomical phenomena and radiations falling on your planet without benefit of direct optical observations. The brains of your species were thus engendered to conceive and solve vast intricate abstractions. Your powers of holding complicated mathematical structures suspended in your mind’s eye while performing mathematical operations on them is extraordinary. You have a phenomenal conceptual and generalizing faculty. It is easy for you to conceive of invisible,

and even imperceptible, forces, because your daily environment is a suggestive, allusive one. You taste and smell your ambience rather than see it. Your powers of telepathy may be extremely highly evolved - possibly a characteristic of your species from the earliest history.

The climate range of your planet is greater even than the Earth's because there are no ice caps, due to there being more radiation from the two or three stars in your multi-solar system. Your oceans are all the more extensive, therefore, for not being locked up in ice caps at the poles.

Space flight is less uncomfortable for you than for humans, as the state of weightlessness is often approximated under water (indeed, on Earth the astronauts train under water). Your blood circulation is thus better suited to the weightless condition than is the case with humans and you do not at all mind living in the gigantic water tanks orbiting your planet which constitute your many satellite space cities. It is not as difficult to simulate a watery environment in space as it is to simulate a dry land environment. Your wants are few, your existence simple. You do not eat cooked food and you do not have stoves to keep warm. Farming for you is mostly the breeding of delicious small fish, and meals are an adventure as you love a good chase and the satisfaction of catching your food. Dinner is a family sport.

The amphibians must have a name, and the Dogon name for them of 'the Monitors' may be the best to consider using. 'Monitor' is more specific than 'Instructor', and 'Masters of the Water' is too long. There is no point using the euphemism the 'Annedoti', knowing that it means the 'Repulsive Ones'. A more generic and neutral term, I suppose, would be simply the 'Sirians'. If we ever come into contact with them again, they will probably be called the 'Sirians' officially, and their civilization will be the 'Sirian civilization'. Their art will fall under the heading of 'Sirian culture' and their technology will be 'Sirian technology'. But what about their religion? There's a delicate point. It will be called the 'Sirian religion' and we will try to pretend it has nothing to do with us. But inevitably we will have to take into account that, whereas 'cultures' and 'technologies' can be localized, the greater problems of the nature of life itself and of an individual's relation to the universe - existential problems - are not localizable. There will in fact be no such ultimate thing as 'Sirian religion'

except in the ethnographic sense. To speak of a 'Sirian' God will get us into deep waters. What do we mean when we speak of a 'Jewish' God or a 'Christian' God ? There is no doubt that it is at the level of our deepest concerns - our religious and philosophical ones - that contact with an extraterrestrial civilization will make its deepest impact on us. And it is at this friable level of our preconceptions that we are most vulnerable. Here the foundations of our beliefs can crumble with the first shock wave. Here the entire edifice of our civilization can give way. Only by being prepared can we safeguard our own cultural integrity.

We must not dismiss speculations such as those we have just indulged ourselves in as idle, thinking that we will wait and see what turns up in a spaceship some day. If we are going to be coming into direct contact with amphibious extraterrestrials, we should try to get some thoughts together on their physical nature and requirements at the very least - if only to make them welcome. It is quite true, as Carl Sagan says: '... stories like the Oannes legend ... deserve much more critical studies than have been performed heretofore.'⁴⁰ The critical studies should be institutionalized by the governments of the major powers, and made official programmes. The resources of the governments which pour into programmes to prevent their countries being overrun by military invasions, chemical warfare, nuclear blasts, should also pour into programmes to prevent our planet as a whole being overrun by a sudden extraterrestrial contact which gives little warning. No matter how much care may be taken by any superior extraterrestrial civilization in dealing with us, it is really up to us to be ready for any contact. I would even venture that we may be under observation or surveillance at this very moment, with an extraterrestrial civilization based at the Sirius system monitoring our development to see when we will *ready ourselves* for their contacting us. In other words, we may very possibly be allowed to control the forthcoming contact ourselves. One wonders what any possible amphibious extraterrestrials living at Sirius would think roughly ten years later (speed of radio transmission at speed of light - across ten light years means a ten-year lag) upon receiving news from some automatic monitoring device which picked up a radio or television programme at Earth mentioning a book just published about amphibious extraterrestrials living at Sirius. Would they think that was their cue? If what I propose in this book really is true, then am I pulling a cosmic trigger?

When this book was accepted for publication, the managing director of the publishing company asked me to his office for our first meeting. He had personally decided to accept the book and he had himself read it. On the basis his first question to me was: 'Mr Temple, do you believe it? Do you believe it *your self*?' My answer was: 'Yes, I do. I have become convinced by my own research. In the beginning I was just investigating. I was sceptical. I was looking for hoaxes, thinking it couldn't be true. But then I began to discover more and more pieces which fit. And the answer is *yes, I believe it.*'

The information in this book cannot really rest with publication. I hope that many people will take an interest in exploring the ramifications of what I have here presented. This process has already begun, some months before publication. Portions or versions of this book have been read by a number of people already, nearly all of whom have made valuable comments on the material. With a subject like this which is new, fresh insights are possible from almost anyone. The least educated person might have the most profound thought on some aspect of this question. But primarily it is from the highly qualified professionals that progress should come. Astronomers in particular must deal with this material. Fortunately, they are an open-minded community, perhaps due to the open-ended nature of the universe which it is their job to study.

It may be of interest to the reader to see an example of a reaction to this book by an eminent astronomer who is internationally known in his field. Professor W. H. McCrea, F.R.S., Emeritus Professor of Astronomy at the University of Sussex and a former President of the Royal Astronomical Society, read an early draft of the book. Though a great deal of the book is changed since then, I nevertheless quote portions of his reactions in a letter to me dated 20 August 1973:

My reaction is:

A. The special interest of Egyptians and others in Sirius is well known and you have made a strong case (as I think the people you quote have done) for supposing that the Dogon interest in Sirius is connected with this.

B. In your very clever investigations of Egyptian, Sumerian, Greek... myths, you seem to have shown that some of these people *may* have had ideas about a dark, dense star possibly associated with Sirius. But, as I say, anything beyond that seems to me not established.

C. In spite of all this, if you will allow me to say so, I think your investigations are fascinating and they make an exciting book.

D. Your work does appear to bring out more strongly than ever the *impression* that, as you say, ancient cultures did not develop gradually. I do not know whether this impression is significant, but it bears investigation. I cannot see how it could have anything to do with space travellers. But you may think it right to argue the case. [Unfortunately none of the material in Chapter Seven of this book was known to Dr McCrea when he wrote this, for it was added in a later version of the book, as was much more.]

I may add that I realize that some of the matters about which you write may have been mysteries of religion, and so it may be hopeless to expect anything more explicit than what you describe. Also, as you say, there seems to have been a liking for puns. So it could be that the revelations by the Dogon tell us what has been left secret for 6,000 years.... To some extent, I am being *advocatus diaboli* so that maybe I am letting you see the sort of thing you will be up against when your work is published.

A great many of the criticisms which I have not quoted were dealt with in the complete rewrite of the book which took place after Professor McCrea and others had kindly blasted me with specific points. I was less fortunate in obtaining such comments from authorities on the ancient world.

On the whole it is the astronomical community who have shown the most interest in this matter, for it is they who are directly concerned with such a subject. And no astronomer has contributed a more detailed appraisal of the actual Dogon accounts than Dr Irving W. Lindenblad of the U.S. Naval Observatory in Washington, who in a letter to me dated 14 June 1974, made

these comments: I agree that one should think twice before disagreeing with the Dogon. From an astronomical viewpoint, however, there are difficulties with the Dogon's suggestion of a third Sirius component having a period of 32 or 50 yrs., yet having a 'greater trajectory'. Kepler's third law states that the squares of the orbital periods are proportional to the cubes of the orbital semimajor axes. Thus, a 'greater trajectory' must be accompanied by a greater period.

Among the numerous observed triple systems of stars circling a common center of gravity, it has been found that the third member *always* has a *much* greater distance and period than the other two components. Celestial mechanics illuminates this phenomenon by demonstrating that a triple system is unstable if the two secondary stars are nearly equidistant from the system's center of gravity.

If the periods of B (Digitaria) and C (*emme ya*) are similar, as stated by the Dogon, their orbits must have similar dimensions (Kepler's Law). But this constitutes an unstable system (celestial mechanics) and it would also contradict the Dogon's thesis that *emme ya* has a 'greater trajectory'.

The Dogon must have realized that the orbital radii of Digitaria and *emme ya* could not remain at right angles with one another unless the periods were the same. If he did, this would constitute an argument in favour of accepting the tradition assigning a 50 yr. period to *emme ya*, as opposed to the tradition assigning a period of 32 years.

As to the diagrams to be found in this book, Figures 6 and 7, showing the comparison between Dogon tribal and modern astronomical conceptions of the relative orbits of Sirius A and Sirius B, Lindenblad, who has been studying the Sirius system for seven years, comments on them in a letter dated 7 March 1974: 'Regarding your orbital diagrams of Sirius, my work would not affect them at all. The changes I have been dealing with involve very minute quantities which can be detected only in large telescopes and even with such instruments a great amount of observation is required.'

Dr Lindenblad had not read this book prior to going to press, although he did read the Griaule and Dieterlen account of the Dogon Sirius system and see the diagrams. As for Professor McCrea, he had discovered quite independently of my own work that the Dogon knew of the existence of an invisible companion star to Sirius. He was informed of this by a friend in Argentina who had read a French account, which mentioned Griaule and Dieterlen's work. McCrea has spent a considerable amount of time analysing the Dogon tradition, but I leave to him an exposition of his own views when the full material is available to him, which it has not been to date. (Indeed, I received a great deal of it after the book was written and therefore I had to rewrite the book to incorporate it. The new material all served to strengthen rather than weaken my thesis.) In considering the material set forth in this book, I hope that serious scholars will bear in mind that the existence of amphibious beings with high intelligence and advanced civilization is not a previously unheard of idea. As far back as 1966, in their book *Intelligence in the Universe*, Roger MacGowan and Frederick Ordway wrote:⁴¹

Little can be said specifically about universal physical characteristics ... life, especially the more intelligent forms, tends to be physically small, discrete, and highly mobile.... Humans, being land animals, tend to think in terms of land animals when considering intelligence, but we know that the sea contains a great variety of life. Moreover, all evidence points to the conclusion that the primordial seas were probably the site of the origin of life. Oceans provide an excellent environment for animal life and the competition between many species should encourage rapid evolution.

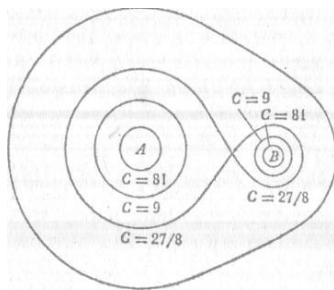
A liquid environment provides more buoyancy and support for animal bodies than does an atmospheric gas. For this reason the marine environment may be expected to develop many species that are larger than most land animal species. Knowing that larger bodies can support larger brains one might expect to find superior intelligence among the larger marine animals.

Considering this larger potential size, the great variety of life, the good stable environment of the oceans, and the competition among species, one is at first tempted to assume that the majority of intelligent extrasolar life would be marine... . Fins, ideal for ocean locomotion, are not well suited to developing tools (and thereby brains). However, a few ocean species have developed other appendages more suited to tool manipulation. The octopus is a very well known ocean creature which could conceivably develop tool manipulation capability with further evolution. Some other ocean floor creatures could develop the equivalent of human arms and hands... . The patently high intelligence of certain whales and dolphins raises the question as to whether tool manipulating appendages are really vital to the development of superior intelligence. And it makes it difficult to say whether some intelligent extrasolar life may be marine rather than land dwelling... We conclude that the majority of intelligent biological species will not differ greatly in gross morphological characteristics when compared to humans. They can be expected to range from less than half the size of a human to several times larger, and they should be expected to have, in most case, two legs and two arms with hands and fingers. In a few cases centaur-like animals having four legs and two arms with hands and fingers, or elephant-like animals having four legs and one arm or a trunk might be possible. Another possibility is some form of marine life having fins and two short arms with large hands and webbed fingers.

As I remarked in Chapter One and now I mention again, it may well be that Sirius C follows a figure-eight orbit around both Sirius A and Sirius B alternately. Perhaps its total orbital period is 50 years and its larger loop period is 32 years. It may orbit in a plane which is at right angles to the plane of Sirius B's orbit. It would genuinely be a 'greater trajectory' because its figure-eight would encompass both of the other stars, but its actual distance and time would still obey Kepler's third Law and would not exceed those of Sirius B with the same period. Indeed, the identity of the periods of Sirius B and Sirius C might be a synchronous phenomenon lending stability to such a complex system. The Dogon seem to claim that the planet on which the amphibians live elliptically orbits the star *emmeva*, Sirius C. What is required now is a great deal of calculation by a professional astronomer to consider the amount of radiation to

which a planet would be exposed following the star Sirius C in a figure-eight orbit of the kind of I have proposed. Would life be possible on such a body? The astronomer Su-Shu Huang has written an essay 'Life Supporting Regions in the Vicinity of Binary Systems' which appears in the book *Interstellar Communication*.⁴² This essay examines the conditions under which planets supporting life can exist in systems with more than one sun. I reproduced as Figure 28 his diagram showing the general orbits of planets capable of

c-I



c=i

Figure 28. Dr Su-Shu Huang's diagram for possible orbits of habitable planet in binary star system. A and B are stars. The curves with different values for C are suggested orbits, one of which is a figure-eight configuration. The most recent suggestion by an astronomer that habitable planets could exist without difficulty in binary or multiple star systems is that of Dr B. M. Oliver, 'Proximity of Galactic Civilizations', in ICARUS, 25, 360-7 (1975), noticed at time of going finally to press

supporting life in binary systems. Notice that one such orbit is a figure-eight exactly of the kind I suggest for Sirius C, with its accompanying planet. However, this kind of orbit would more probably be unstable. It is a possibility, but if it has existed at one stage, it would probably have collapsed into some other configuration after a short time - long before life could have evolved in the Sirius system. Dr Paul Murdin of the Royal Greenwich Observatory summed the situation up brilliantly when he said that a coin, when tossed, may indeed land on its edge; but even if it does, it will soon topple over, so that the probabilities for a tossed coin landing on its edge become meaningless in real situations. Our

figure-8 orbit therefore probably cannot exist as a permanently stable feature of the Sirius system, no matter how attractive it may be to us in theory. But my idea of an orbit for Sirius C at right angles to the plane of Sirius B's motion (but without the figure-8) was, I was assured by Murdin, probably the ideal solution. For the hypothetical star could penetrate the Sirius B plane of motion in a vast range of places without disrupting Sirius B's orbit, as long as the perpendicularity of the two planes of motion was retained. A 50-year or 32-year elliptical orbit for Sirius C, therefore, in a plane perpendicular to that of Sirius B's orbit is entirely possible. These multiple star motions involve such complicated celestial mechanics that the necessary computations are well beyond the competence of most professional astronomers. Only certain specialist astronomers are capable of such work. Plottings have been made of the possible orbits for third stars in certain binary systems, and at the time of going finally to press, I am seeking the views of R. S. Harrington, S.-S. Huang and D. Lauterborn on these hypothetical problems. Harrington has demonstrated that a triple-star system is stable under conditions where the periastron distance in outer orbit divided by the semimajor axis of inner orbit is not less than 3-5 if the orbit is direct or 275 if it is retrograde. Bearing this in mind, Dr Paul Murdin of the Royal Greenwich Observatory concludes: 'There seems no reason to me why there should not be a Sirius C, say another white dwarf, at a distance from Sirius A of four hundred times the radius of our Sun, with orbital plane in the plane of the sky so as not to perturb the radial velocity of Sirius A.' And he says that 'its orbit will precess in time due to B, but with a period larger than the period of B, so we may be unlucky at this time in not seeing the perturbations.' (This refers to Lindenblad's negative results.) In closing, I wish to make a final point of considerable importance. Let us assume that what I have proposed in this book really is true. Let us grant all the premises. Say that there really is an advanced civilization based at the Sirius system. No doubt we are under routine monitoring. No doubt they know by now roughly where we stand on the ladder of evolution. They have picked up our radio signals. They know we have been to the moon. Let us assume they wish us well. Let us assume even that they contact us someday when they think we are ready for it - or after we have discovered them by examining the Sirius system as I suggest and finding evidences of their existence.

Let us assume all this. Well, if that day comes - or if it doesn't and if some

other day comes, some other civilization some day is known to us at some other star - there is one thing we must not forget. We must remember that no matter how grand and glorious *they* may be, they are still mortal beings in a universe which to them is still mysterious. They cannot and never will know all the answers. We may very well have a handful of answers that they have not. We may have some quirky skills which they cannot attain. We may have some peculiar native ingenuity which they lack, even if this is not obvious for centuries. There may be something about us that is so valuable that we are not just worthless primitives beside them. Let us never accept a view of ourselves as recipients of cosmic charity. We are men, and for all our faults, we have a few things about us which are worth some attention. We have had some remarkable characters in our history and we will have more. Whatever one's views of what lies beyond death -extinction, reincarnation, heaven and hell - the genetic stream goes on. There will be more men, and there will be great ones. We can rise to challenges. We have demonstrated courage throughout our history. Any superior civilizations may have even more superior civilizations behind them of whom they are curious. Let us not forget the principles of hierarchy, let us never blind ourselves to the possibility of a door behind the door behind the door. And if we ever find ourselves oppressed, let us be certain that there are others - somewhere - who would free us. The universe is finite but unbounded. There are between ten and a hundred million intelligent civilizations in our galaxy alone, in all likelihood. And there is always one more to contact than the one we have already contacted. We can afford to shop around in a shop the size of the universe.

Notes

1. The reader may wonder if the name of the Dogon tribe is in any way connected with the names 'Dagon' and 'Odacon'. This is pure speculation but not unlikely in my opinion.

2. See Appendix II, for reference.

3. With I. S. Shklovskii. Dell, New York, 1966. See Chapter 33.

4. For instance, by Kenneth Demarest in *Consciousness and Reality*, p. 351.

5-See end of Appendix II and the Bibliography. Thomas Stanley in his

The History of the Chaldaick Philosophy, London, 1662, p. 12, notes some additional interesting information about the family of Berossus by telling us: 'A daughter of this Berossus is mention'd by Justin Martyr, a Babylonian Sibyl, who prophesied at Cumae ...' On p. 10 Stanley describes Berossus as the man 'who first introduced Chaldaick learning into Greece'.

6. *Le Renard pale*, p. 462. 7. Ibid., p. 458.

8. Ibid., p. 460. 9. Ibid., p. 440.

10. Ibid., p. 441. 11. Ibid., p. 441.

12. Ibid., p. 440. 13. Ibid., p. 440.

14. Ibid., p. 440. 15. Ibid., pp. 309-10.

16. Ibid., pp. 309-10. 17. Ibid., pp. 156-60.

18. Ibid., pp. 156-60. 19. Ibid., pp. 156-60.

20. Ibid., pp. 156-60. 21. Ibid., pp. 157-60.

22. Ibid., pp. 157-60. 23. Ibid., p. 287.

24. Ibid., p. 287. 26. Ibid., pp. 444-5. 28. Ibid., pp. 444- 25. Ibid., p. 444.

5. 27. Ibid., pp. 444-5. 29. Ibid., pp. 444-5. 31. Ibid., p. 439.
30. Ibid., p. 506. 32. Ibid., p. 438. 34. Ibid., p. 436. 33. Ibid., pp. 437-9. 35. Ibid., pp. 436-9.
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36. Ibid., p. 474.

37. *The Marsh Arabs* by Wilfred Thesiger, Penguin Books, London, 1967; and originally Longmans Green, London, 1964.

38. *Le Renard pale*, p. 370.

39. I may be entirely wrong in this supposition, according to a recent report on the bottlenosed dolphin in *Science*, Vol. 189 no. 4203, 22nd August, 1975, pp. 650-2. There, four joint authors from the University of Hawaii show that this dolphin has a special double-slit pupil which enables it to see very well at long distances in air. The conclusion is that 'daylight visual resolution acuity of the bottlenosed dolphin, *Tursiops truncatus* is approximately equally good in air and water'.

40. Sagan and Shklovskii, op. cit., p. 461. (It is not true, as he says on p. 460, the previous page, that 'the idea of planets circling suns and stars is an idea which essentially originated with Copernicus', as anyone reading Appendix One will see.) 41. MacGowan, Roger, and Ordway, Frederick. *Intelligence in the Universe*, Prentice-Hall Inc., New Jersey, U.S.A., 1966, pp. 242-4.

42. *Interstellar Communication*, ed. by A. G. W. Cameron, op. cit., p. 93. Dr Huang is currently of the Dearborn Observatory at Northwestern University in the U.S.A.

APPENDIX I

The Moons of the Planets, the Planets around Stars, and Revolutions and Rotations of Bodies in Space -Described by the Neoplatonic Philosopher Proclus

‘.. . In each of the planetary spheres there are invisible stars which revolve together with their spheres ...’ So said Proclus the Platonic successor in A.D. 438.

The non-specialist reader will never have heard of Proclus, one of the greatest intellects in the history of philosophy, who lived from A.D. 410 to 485. The only easily available English translation of this Greek philosopher’s gigantic output is his *Elements of Theology*¹ (which is not relevant to what we are to consider here). But the persistent inquirer may obtain his *Commentary on Euclid*² and his *Commentary on the First Alcibiades of Plato*³ in English (the former from America, the latter from Holland). And from Liechtenstein one may now obtain in English the end of the seventh book of his *Commentary on the Parmenides of Plato*.¹

What the persistent inquirer will likely *not* be told by any compendium of information on the subject is that most of the works of Proclus were translated into English by Thomas Taylor at the turn of the eighteenth and nineteenth centuries in England and are to be found in a handful of libraries (though even the British Museum has a far from complete collection of Taylor’s life’s work).

Perhaps it would be as well to quote the view of Proclus held by Thomas Taylor. One should bear in mind that Taylor was the first man to translate all of Plato’s works into English - a mammoth task indeed, but not as wearying as translating most of Proclus! Here, then, is what Taylor says of Proclus: To the lovers of the wisdom of the Greeks, any remains of the writings of Proclus will always be invaluable, as he was a man who, for the variety of his powers, the

beauty of his diction, the magnificence of his conceptions, and his luminous development of the abstruse dogmas of the ancients, is unrivalled among the disciples of Plato.

There are many classical scholars who like to imply that the ‘Golden

Age’ of Greece was the only significant era in Greek philosophy. Within this period one can conveniently place Socrates, Plato, Aristotle, Euripides, Sophocles, Aeschylus, Demosthenes, and the historians Herodotus, Thucydides, and Xenophon.

These brilliant names tend to blind one into accepting the false notion that Greece at any other period in its history was merely second rate in the intellects it produced. Many scholars are passionately dedicated to deriding any Greek intellects either before or after this ‘Golden Age’. Some caustic comments have been made about this by other scholars, and there is no denying the tendency to ignore or belittle -even to suppress and deny - Greeks who preceded or followed the glorious ‘Golden Greeks’ who are most familiar to us. It certainly is an embarrassing fact, then, for certain classical scholars to have to face, that the Platonic Academy continued to function in Athens for over nine hundred years.

Regarding the Academy, George Sarton says in *A History of Science: Ancient Science through the Golden Age of Greece*-}

At the time when (the Emperor) Justinian closed its doors (the Academy) might have celebrated its 916th anniversary. ... the Academy changed considerably in the course of centuries; it is only the Old Academy that may be considered as Plato’s Academy, and it lasted a century and a half or less. To this one might reply that every institution is bound to change with the vicissitudes of time and that the longer it lives the more it must be expected to change. Bearing these remarks in mind, we may put it this way: the Academy of Athens, the Academy founded by Plato, lasted more than nine centuries.

Those who find chronology difficult to comprehend without analogies might wish to ponder this: the duration of the Platonic Academy (apparently on the same site) in Athens was equivalent to the duration to date on English soil of

Westminster Abbey; or, the 916 years of life of the Academy as a philosophical institution was equal to the amount of time which will have elapsed from the Norman Conquest of Britain in 1066 to the year 1982. (And even after the dismemberment, the Academy continued 'in exile' in Persia, etc.) We thus see that Plato's Academy existed longer on one spot than Britain has existed since William the Conqueror.

The Platonic tradition in the broader sense, with its gnostic and heretical overtones and its myriad manifestations in later ages in such bizarre and fascinating figures as Giordano Bruno, Marsilio Ficino, John Dee, and even Sir Philip Sidney and the Earl of Leicester - not to mention the troubadours of Provence, Dante in Italy, and the massacred tens of thousands of Albigensians in France, the Knights Templar, and an infinite range of hopeless causes over two and a half millennia, is an agonizing and impossible problem for the orthodox mind, whatever its creed. For Platonism in the general sense is a creed which denies creed, an anti-institutional tradition known to those who adhere to it as the 'Great Tradition'. It resembles the Society of Friends (Quakers) in insisting on nothing by way of doctrinal dogma. It is truly free, it has no membership, no tithes, no rules which are enforced; it has no Pope, no Caliph. It terrifies those weaker mentalities which crave a structured belief-system; they always try to destroy it, but succeed only in destroying individuals and individual 'movements' within the larger tradition.

How can any 'intellectual establishment' conceivably admit that this undercurrent of spirituality has flowed outside the orthodox boundaries of the official religion of Christianity since the third century and the time of Origen? And how confess that Proclus, who lived seven hundred years later than Plato, had a mind as luminous in his own way as Plato's? What happens to the 'hermetically sealed Greek miracle' then? If Platonism is seen to continue as a persecuted underground movement for two thousand years and more, what conclusions must we draw about the supposed openness of orthodox Western culture? If our commonly accepted pattern of civilization is seen to be based on a lie, based on the denial of the non-orthodox, the implications are so immense that nothing short of a total intellectual upheaval could result. No person with a vested interest, whether a chair at a university or a weekly newspaper, a large corporation or a television station (or a diocesan see) would be completely isolated from the results which would follow. The results need not be destructive

in the sense of a political or social revolution, but they would be more fundamental, and hence more far-reaching in the end. It is fear of constructive change (which amounts to fear of the unknown) which is here involved. These indeed are problems. And they go some way to explain why the reader hears nothing of a great many subjects which have a direct relevance to the matter. One of the many such subjects is Proclus. No one dares to discuss what Proclus really stood for and what he represents beyond his own specific ideas. Even to raise the subject of a figure such as Proclus is to bring the skeleton from the closet and rattle it with a vengeance.

Proclus does not even rate his own entry in the *Penguin Companion to Literature*, vol. 4, which deals with classical literature. He is mentioned under an entry for Neoplatonism by D. R. Dudley: He was a strange combination - possible in that age - of philosopher, logician, mathematician, and mystic. Neoplatonism gave to the intellectual of the last phase of paganism a metaphysical religion—

The figure of the sage gazing upwards in contemplation is often found on late imperial sarcophagi.

Notice the phrase ‘possible in that age’, implying as it does that no person today would even consider trying to know something about so many subjects in our age of perverse over-specialization. Proclus, we are told, ‘was a strange combination’. Dudley tells us nothing of what Proclus wrote, nothing of his ideas, nothing of the immense bulk of his writings, and in his bibliography refers us only to the harmless and difficult *Elements of Theology*. We are left to conclude that Proclus was an extinct species like the dodo, interesting only because he was ‘a strange combination possible in that age’. There are very few historians dealing with the fifth century A.D. We assume from what Dudley says that only they could be interested in a ‘strange combination possible in that age’. Surely Proclus, of whom we are told nothing of importance, is totally unimportant. Would the *Penguin Companion* mislead its readers? Such a thing is unthinkable.

Professor A. C. Lloyd of the University of Liverpool was given the task of discussing Proclus as part of his contribution to the *Cambridge History of Later Greek and Early Mediaeval Philosophy*,⁶ a compendium which did not exist before 1967 and which was reprinted with corrections in 1970. The publication of this large volume of 715 pages marked the attainment of a stage in classical scholarship where many scholars were officially agreeing that they were running out of things to do in the more usual areas and had better begin compiling guidelines for a study of the long-neglected subject of the above-mentioned book. Such lonely figures as Richard Walzer, Philip Merlan, and the late I. P. Sheldon-Williams, long engaged in these arcane pursuits out of pure interest, were summoned to help delineate the bounds within which a new generation of students might have some new fields in which to do their Ph.D. theses and where some original work remains to be done by the professors who have now tidied up the Pre-Socratic field rather well and need new ground for some genuine problem-solving.

But to return to Professor Lloyd, who has made an interesting attempt to describe Proclus and some aspects of his thought and writings. It is important for us to know more about Proclus the man.⁷ Here is part of Lloyd's account: Proclus was born at Constantinople in 410 or shortly afterwards. But his parents, who were patricians from Lycia in southwest Asia Minor, sent him to school in their country and then to Alexandria to study literature and rhetoric. Instead of law, which was his father's profession, philosophy attracted him, so he attended lectures on mathematics and Aristotle. The next stage was Athens. His studies at the Platonic Academy there are then described, and it was this School of which he was to become the Head: 'It is not known when he took over the School, but he remained at its head till he died in 485. He never married and his only defects were a jealous nature and a short temper.'

His short temper seems to have extended to impatience with those who were slow to understand what he was saying or who made irritating difficulties over petty details. For instance, he begins his mammoth work *Commentary on the Timaeus of Plato* with this extraordinarily testy sentence: 'That the design of the Platonic Timaeus embraces the whole of physiology and that it pertains to the theory of the universe, discussing this from the beginning to the end, appears to

me to be clearly evident to those who are not entirely illiterate.’

It is now that we begin to consider the connection which Proclus has with the larger subject of our book. We will continue with Professor Lloyd’s description of Proclus: Proclus moved in important political circles, but like other leading Platonists he was a champion of pagan worship against imperial policy and found himself more than once in trouble. There is no doubt of his personal faith in religious practices. A vegetarian diet, prayers to the sun, the rites of a Chaldaean initiate, even the observance of Egyptian holy days were scrupulously practised. He is said to have got his practical knowledge of theurgy from a daughter of Plutarch [the Platonist, not the author of the *Lives*], and according to his own claim he could conjure up luminous phantoms of Hecate. Nor is there any doubt that he put theurgy, as liberation of the soul, above philosophy. But while his philosophy is full of abstract processions and reversions, philosophy was nothing for him if not itself a reversion, a return to the One, though achieving only an incomplete union. Its place can be seen in an almost fantastically elaborated metaphysical system: but although this system would not have been created had there not been a religion to justify, its validity does not depend and was not thought by Proclus to depend on the religion.

The connection with the mysteries of Hecate as well as Proclus’s practising Egyptian and Chaldaean mysteries immediately arouses in the alert reader the suspicion that Proclus might just possibly have known something of the Sirius mystery. Could this be the case? In a moment we will consider some amazing opinions of Proclus on the heavenly bodies which no historian of science I have encountered has ever taken into account (probably because no one ever actually reads through that gigantic tome known as the *Commentary on the Timaeus of Plato* which I mentioned a moment ago). But first let us examine any further evidence than this slim fact which might link Proclus with the general milieu of our Sirius tradition. Professor Lloyd provides further interesting remarks: Proclus believed that his metaphysics was the true though hidden meaning of Plato and that this like all Greek ‘theology’ derived from the secret doctrines of Pythagoreans and Orphics. It can be studied in two works, the *Elements of Theology* and the *Theology of Plato*, with help here and there from the

commentaries on the *Parmenides*, *Timaeus*, and *Alcibiades*.

It must be emphasized that in the form of such commentaries, the Neoplatonists produced much purely original and creative philosophy. It is fashionable at the moment to ridicule their commentary format as derivative and inferior. This is a pathetic attempt to deride what cannot or will not be appreciated. An example may be seen in the description by Professor Robert Browning of Birkbeck College, University of London, in the *Penguin Companion* volume, of the commentaries of Proclus's later successor Simplicius as 'misconceived and pedestrian textbooks'. The word 'misconceived' is loaded, and immediately lets us know that Professor Browning disagrees with them in principle and therefore derides them. However, in my own reading of Simplicius's *Commentary on Epictetus*, for instance, I was amazed to find a luminous intellect behind the commentary, whose dissertations on free will are so startlingly contemporary that I immediately thought of comparing them with writings of our modern cybernetic age, such as the fascinating books by Norbert Weiner. In Chapter One Simplicius speaks of 'those who pretend that our opinions and desires, and generally speaking, all of our choices and intentions, are necessary and not at our own disposal, but come from exterior causes outside ourselves, not coming from us of our own volition.' He attacks the 'Behaviourists' of his day in clear and forceful terms which are not restricted in relevance to his own times by any means. Some of his reasoning is so acute and many of his insights are so profound, that I can see no reason why not a single word of his writings can be obtained in English from any publisher in the world.

Of the works of Proclus, it is really the *Commentary on the Timaeus of Plato* (which I shall abbreviate from here on as *In Tim.*) which is the source of Proclus's views on the cosmos and of his views of the Platonic succession of an esoteric tradition from the ancient mystery religions. Professor Lloyd, in a footnote to his passage last quoted, does not give this reference on these points, but instead refers to other works by Proclus. In his entire treatment of Proclus, Lloyd gives only slight and cursory reference to the *In Tim.* However, it is to the *In Tim.* which we must now turn. Since page references to the Greek text of Lipsiae would be useless to most readers, I give page references to Taylor's

English translation, vols. I and II.

At the end of Book IV of *In Tim.*, Proclus says (II, 307): ‘But it is Pythagoric to follow the Orphic genealogies. For the science concerning the Gods proceeded from the Orphic tradition through Pythagoras, to the Greeks, as Pythagoras himself says in the *Sacred Discourse*.’

The fact that he entertained this view in relation to the mystery religions is shown in his remarks about Pythagoric principles in *In Tim.*, Book V (II, 312): ‘But these are the Orphic traditions. For what Orpheus delivered mystically through arcane narrations, this Pythagoras learned, being initiated by Aglaophemus in the mystic wisdom which Orpheus derived from his mother Calliope.’

He attaches this view to his discussion in *In Tim.* of celestial phenomena. Not long after the above passage he says: ‘For Orpheus calls the moon celestial earth’. And in Book III he says: ‘The Pythagoreans say ... (that) the moon is ethereal earth’.

Taking these views, as he does, and claiming to be a devotee of Hecate specifically (a ‘Hymn to Hecate’ by Proclus survives in which he calls her ‘Guardian of the Gates’ - an ancient Egyptian title of Horus - and Mother of the Gods - an ancient title of Isis; see IV, 4, 6, of Grant’s *Hellenistic Religions*),⁸ Proclus seems to stand in the position as an initiate capable of knowing something of the Sirius mystery. I have found no references, and it would have been considered impious by him to make any direct references to such an esoteric doctrine. But I have found that many theories of his clearly seem to reflect on it and be based on its premise of an invisible star. These theories are so extraordinary that I feel an account of them should be made. And the primary importance of them to us is that in them Proclus speaks with full authority in insisting that certain invisible heavenly bodies definitely exist. These bodies are the moons of the planets and the planets of other stars. Furthermore, Proclus seems to have an incredibly enlightened view of celestial phenomena in many other ways as well.

In Book III of *In Tim.* Proclus says (1,425) that the Moon is made of celestial earth. Or why else does the moon, being illuminated, produce a shadow, and why does not the solar light pervade through the whole of it? ... we shall find that fire and earth subsist also analogously in the heavens; fire indeed, defining the essence of them, but each of the other elements being consubsistent with it.

Shortly afterwards he says:

The elements being conceived in one way as unmingled, but in another as mingled, the first mixture of them produces the heavens, which contain all things according to a fiery characteristic... . For all things are in the heaven according to a fiery mode.

We know from other citations above that the theory of the moon being 'celestial earth' is a 'Pythagoric-Orphic' one which Proclus has adopted. The fact that he here extends the observation to the remarks of the general nature of the celestial bodies implies that those ideas come from the same source. The heavens are indeed of a 'fiery mode', for we now know scientifically that stars possess all the normal chemical elements in a fiery mode. Proclus's description of celestial bodies could be perfectly in harmony with our present-day scientific knowledge. It is true, as Proclus says, that the stars may be described with 'fire indeed, describing the essence of them, but each of the other elements being consubsistent with it'. For, though they are ablaze, stars are known to contain all elements.

Proclus makes absolutely clear that when he speaks of 'fire' in the heavens he is speaking figuratively. He says (page 280): 'Hence, the fire which is there (in the heavenly bodies) is light; and it is not proper to disturb the discussion of it, by directing our attention to the gross and dark fire of the sublunary region [the below-the-moon, or earthly region].' And to make it beyond the slightest possibility of misunderstanding, he adds (page 281) that fire in the heavens is 'fire which is not perfectly fire' but, rather, star-fire is more properly 'fire which is in energy'.

These conceptions are quite astounding in the light of modern science. In fact, modern theories of there being in space an interstellar medium which is of such a tenuous nature that it is barely perceivable to us but nevertheless quite extensive (*not* the old-fashioned ‘aether’!), find an uncanny forerunner in Proclus’s strange statement from Book III of *In Tim.* (I, 425): It is also necessary that the middle elements should be in the heavenly bodies, but that different elements should abound in different parts of the celestial regions. And in some places indeed, 236

it is necessary that the fiery nature should widely scatter its splendour, on account of solidity, as in the starry bodies; but in others, that it should be concealed from us, as in the spheres that carry the stars.

No matter what interpretation one may put on these remarks by Proclus, the fact remains that he views the stars as congealed bodies in a celestial medium and that between them lies ‘fiery matter’ which is invisible to us. As for his references to the spheres, these are hardly the glassy globules familiar to us from more conventional ancient astronomy, as we shall see.

In Book IV of the *In Tim.* (II, 293), Proclus ridicules epicycles and says they are valuable as ‘an excellent contrivance’ by which to analyse and comprehend the true simple motions of the stars, just as if someone, not being able to measure a spiral motion about a cylinder, but afterwards assuming a right line moved about it, and a point in the right line measuring its motions, should find what the quantity is of the motion about the spiral in a given time. To this therefore, the attention of those is directed, who employ evolvents, epicycles, and eccentrics, through simple motions, from which they discover a various motion.

We thus see that Proclus, despite his late date, is no prisoner of the Ptolemaic theory of the universe. Ptolemy lived three hundred years before him, but Proclus was a hold-out against his epicycles, preferring the views expressed above. In fact, Proclus views the spheres in a way which is extremely surprising, for in Book IV of *In Tim.* (p. 273) he says: ‘Thus also the planets are moved with an advancing motion, but not the spheres of the planets’.

This is quite a clear statement that the planets move while their 'spheres' or - dare we say it ? - orbits are really the spaces in which this movement takes place. However, we need not be too cautious here. Benjamin Jowett uses the word 'orbit' in his translation of the text of Plato (38-39) on which Proclus is here commenting. There is no reason why we should refrain from doing the same.

We are thus confronted with a clear description by Proclus (less obscure than Plato's own vague account) of the planets moving in orbits which themselves are clearly conceived as trajectory spaces. And this concept is so scientifically accurate and advanced, and so contrary to the then fashionable view that the 'spheres' of the planets moved and carried the planets along with them, that we must appreciate the precocity of Proclus in putting the notion forward so clearly and persistently. Plato's text may be interpreted in the same way, but

it is not customary to do so, and it is too vague by far. A typical example of the standard interpretation of the passage in Plato's own *Timaeus* is that given by Professor A. C. Crombie in vol: I of *Augustine to Galileo* (though he does on page 33 describe the *Timaeus* quite starkly as a 'Pythagorean allegory', which is presumably a daring way to put it) on page 49: The different spheres in which the seven 'planets', Moon, Sun, Venus, Mercury, Mars, Jupiter, and Saturn, were set, revolved with different uniform velocities such as would represent the observed movements of those bodies.

This is purely an *interpretation* of a vague text One could just as well say that Plato maintained that the spheres did not move and the planets in them were what moved, as Proclus specifically states (and as he seems to think Plato believed). Proclus goes out of his way to say (p. 279): (Plato) is evidently of opinion, that the planets become through themselves, more remote from, and nearer to the earth, and that their revolutions according to breadth, are made by their own progressions, and not through being carried by other things, such as evolvments or epicycles.

This puts Proclus in a position diametrically opposite Professor Crombie in interpreting the text of Plato. I am afraid that I, for one, must come down on the side of Proclus in such a contest. In any case, Professor Crombie has shown himself quick to alter a view if presented with fresh evidence on the matter, as he has demonstrated on an entirely different subject in correspondence with the author. Near the very end of Book IV of *In Tim.* (pp. 293 ff.) Proclus says: With respect to the stars, however, those that are fixed, revolve about their own centres.... But the planets revolve in conjunction with the inerratic sphere, and each is moved together with its sphere to the east, and revolves by itself according to breadth and depth, and about its proper centre.

It is worth while for us to examine these remarks of his closely. First of all, the 'inerratic sphere' of the fixed stars revolves around the Earth and the planets do the same in conjunction with it. That is the simplest of the motions. But on top of that are several more motions: first, the fixed stars rotate on their axes in a spin rotation; second, the planets do the same; third, the planets do more than that: each planet 'by itself' (i.e. in separate motion from all the other stars and planets as well as separate from the 'spheres') 'revolves according to breadth and depth', which obviously refers to 'becoming by itself more remote from and nearer to the earth', as seen from the previous quote. And this depth of planetary motion, which Proclus here specifically calls 'according to breadth and depth' literally adds a new dimension to any theory of planetary motion. For whereas anyone who observes the sky over long periods can see that the planets appear to get dimmer and brighter as if they were 'becoming more remote from and nearer to the earth', the formal description of planets operating in terms of a dimension at right angles to their apparent revolutions comes very close indeed to pointing to a central point of their revolutions which is something other than the Earth. There was a tradition that Plato came to believe this, which was publicly proposed by Aristarchus of Samos and partially advocated by Plato's friend Heraclides of Pontus. We know that Proclus was aware of it: 'Let Heracleides Ponticus therefore, who was an auditor of Plato, be of this opinion; for he ascribed a circular motion to the Earth' (*In Tim.* II, 288). In short -that the Earth revolves around some other centre such as the sun. '... But let it be admitted that Plato established it immovable' (ibid.). Thus does Proclus admit the controversy and come down on the side of caution concerning revolution about the sun.

It is phenomenal that Proclus, with an insight which is difficult for us to comprehend, attributed to all celestial bodies a spin rotation about their axes. And since the Earth is a celestial body, it is to be wondered whether Proclus gathered the appropriate conclusion - that the Earth rotates and that is what makes the sky seem to revolve about us.

In considering this point we must realize that in the *Timaeus*, Plato mentions the rotations of the heavenly bodies on their axes (40a-b): 'And (the Creator) gave to each of (the stars) two movements: the first, a movement on the same spot after the same manner ... the second, a forward movement....'

This is an obscure way of saying the stars rotate and the sky circles. (If Plato inserted someone else's treatise into his dialogue without being fully *au fait* with the material - as has been maintained - it may explain the vagueness, though Plato does no better in the *Lam* and was a feeble astronomer.) In the same passage as above, Plato also clearly describes the following: 'The earth, which is our nurse, circling around the pole which is extended through the universe', which refers to the rotation of the earth itself on its axis.

Proclus apparently adds of his own volition the other motions - for Plato seems only to mention two. Furthermore, Plato's text is too brief and foggy to make it clear exactly what he did mean. The one thing of which we can be certain is that Proclus expended untold tens of thousands of words expounding Plato's meanings in all fields beyond the extent to which Plato himself managed or desired to do. On some subjects this is not particularly gripping. But with this particular subject, every scrap of evidence is essential to unravelling the intended significance of Plato's statements.

In an essay of his entitled 'Platonic Questions' (not yet published in the Loeb Library series - as the last remaining of fourteen volumes again we see Platonic studies enjoying the lowest priority - but published in English in 1874°), Plutarch provides us with essential evidence that Plato definitely abandoned his earlier geocentric ideas, despite Proclus's nervous demurral. Plutarch says in Question VIII: What means Timaeus [see Plato's *Timaeus*, 42D] when he says that souls are dispersed into the earth, the moon, and into other instruments of time? Does the earth move like the sun, moon, and five planets, which for their motions he calls organs or instruments of time? Or is the earth fixed to the axis of the universe; yet not so built as to remain immovable, but to turn and wheel about, as Aristarchus and Seleucus have shown since; Aristarchus only supposing it, Seleucus positively asserting it? Theophrastus writes how that Plato, when he grew old repented him that he had placed the earth in the middle of the universe, which was not its place.

(Plutarch then follows with his own opinion, which is that the earth does not move.) Theophrastus's testimony here is unimpeachable, but was probably unknown to Proclus, by whose lifetime most of Theophrastus's works would

have been lost. Theophrastus was Aristotle's successor and head of the Lyceum at Athens, and an unquestionably reliable source; and Plutarch leaves us in no doubt (see 'Against Colotes the Epicurean', 14, in *Moralia*) that he read Theophrastus's actual works attentively, making a misquotation or secondhand report impossible in this instance.

The Seleucus who is mentioned here was a mathematician and astronomer described by George Sarton¹⁰ as follows: 'This Babylonian was a follower of Aristarchus of Samos'. Seleucus is described differently by Giorgio de Santillana, who gives him another nationality in *The Origins of Scientific Thought*, page 250: 'We know of only one [astronomer] who adopted the system [of Aristarchus] a century later, Seleucus of Seleucia, an Oriental Greek from the Persian Gulf.'

However, Plato's views on the earth's position in space are less interesting to us in themselves than as they relate to Proclus's interpretation of them, and also as they relate to modern historians of science, who tend to gloss over the possibility that Plato may have adopted a heliocentric theory of a rotating earth moving round the sun, which was obscurely expressed in the *Timaeus* and less tentatively adhered to by Plato 'when he grew old', bearing in mind that the *Timaeus* itself is no early work of Plato's.

In Plutarch's same essay, 29, we find evidence of a continuity from Plato through his student Xenocrates of the belief that the heavens contain more than one element. However, Proclus seems to transcend by far the limited theory of Plato and Xenocrates as here presented. The summary of theories of Xenocrates presumably is drawn from his lost work in six books *On Astronomy* unless from his one lost book on *Things Pythagorean*. Xenocrates was head of the Academy for twenty-five years until his death at the age of eighty-two 'from the effects of a fall over some utensil in the night', as Diogenes Laertius tells us.¹¹

There is clear proof that Proclus did not himself originate the third motion at right angles to revolution which we have seen that Plato does not mention. We

actually find it referred to by Plutarch in his dialogue 'Of the Face Appearing in the Orb of the Moon', 24.¹² There he says: Nor is the moon indeed moved by one motion only, but is, as they were wont to call her, Trivia, or Three-Wayed - performing her course together according to length, breadth, and depth in the Zodiac; the first of which motions mathematicians call a direct revolution, the second volutation, or an oblique winding and wheeling in and out; and the third (I know not why) an inequality; although they see that she has no motion uniform, settled, and certain, in all her circuits and reversions.

Plutarch's expressions 'mathematicians call' and 'as they were wont to call her' make clear that he is referring to some unidentified and now lost astronomical works. Plutarch's exposition is not as clear as we could wish, and in a succeeding passage is countered by another speaker who espouses the more fashionable theory of spheres which actually themselves move while, as for the moon: 'some supposing that she herself stirs not'. It is peripherally interesting that in this retort the speaker also cites Aristarchus of Samos as being involved in a controversy over a line from Homer's *Iliad* which Plutarch gives and which is missing from our present text of Homer, a line advocated by Crates and opposed by Aristarchus, which correctly describes the sea as covering 'the most part of the earth'. We must not stray too far from Proclus. In pursuit of him, however, I wish to mention his influence on Johannes Kepler, the sixteenth-century discoverer of the three laws of planetary motion (which are the only ones we possess even now). And in this I have another complaint to make. For not one major work of Kepler's has ever been translated into English.¹³ This fact is enough to send one into despair. Who wants to plough through a lot of medieval Latin to read Kepler - and who can? But what has Kepler to do with Proclus? Well, Kepler was steeped - indeed, drenched - in Proclus. The interested reader may turn to the closing pages of *Harmonies of the World* in the Encyclopaedia Britannica vol. 16, *Ptolemy, Copernicus, and Kepler*,^u and read for himself. He will find there remarks about Proclus, after which Kepler says: 'But also I have recently fallen upon the hymn of Proclus the Platonic philosopher, of whom there has been much mention in the preceding books, which was composed to the Sun and filled full with venerable mysteries' in the context of speculation about 'what did the ancient Pythagoreans in Aristotle mean, who used to call the centre of the world (which they referred to as the

“fire” but understood by that the sun) “the watchtower of Jupiter” ?’

Here we see that Kepler, the great forerunner of Newton, was delighted with the ‘venerable mysteries’ of Proclus. In the light of what we know now and will shortly discover further, later in this appendix, about Proclus’s theories, what effect did they have on Kepler’s own thinking?

Was Proclus standing behind Kepler just as Aristarchus stood behind Copernicus ? When will Kepler and Proclus be fully available in English so that any intelligent person can make up his own mind without first becoming fluent in often highly technical medieval Latin? But most important of all, were the greatest advances at the commencement of modern cosmological speculation made by virtue of their generation from suppressed and unorthodox ancient sources such as Proclus and Aristarchus? Did the ‘secret’ side of ancient astronomy from the Pythagoreans to Proclus really engender the origins of our modern cosmologies? And the corollary of this is: If so, are the possibilities of our making certain breakthroughs being stymied by the very suppression of the sources which may have engendered the earliest breakthroughs? By cutting off the root of Kepler, can we really expect the branch to continue to flower? If the facts about Proclus’s theories which are being presented in this appendix really have gone unremarked by all the leading historians of science upon whom we all usually rely to tell us at second hand all the facts which we feel we have no time to discover at first hand, then something is clearly wrong with the system. We have got to overhaul the mechanics. Otherwise we shall continue to spiral downwards and think we are rising. I am referring to means and sources of inspiration. I do not question for a moment that vast progress is made in many areas. But I do maintain most strongly that our system for deriving inspiration in theorizing about the cosmos is demented because it is incomplete, therefore unbalanced. We should by now have formulated more laws or principles of planetary motion. But it is fashionable for those who read secondhand cribs of Kepler to deride him. He was a ‘nut’. We do not attempt to study his means and methods of thinking or even acknowledge the existence of many of his most important sources. And one of those sources was Proclus.

The writings of Proclus are so voluminous that I have to confess that I have not gleaned from them by any means an exhaustive survey of his views. This

Appendix is merely a sampling. But of course we have not yet come to the most surprising views of all, which we must now consider: (The planets') adumbrations are situations according to which they darken us and other things. For the body which is arranged after another body, becomes situated in the front of that which is posterior to it. And . . . they run under each other.

Also there are 'their occultations under the sun, and their evolutions into light...' Significantly he here turns to the subject: For it is necessary to recur from the phenomena to the reminiscences of invisible natures. For as from these instruments and shadows, we are enabled to commence the contemplation of the celestial bodies; thus also from the latter, we recall to our recollection invisible circulations.

It is not an easy thing to know what Proclus is referring to. His sudden dropping of this large but obscure hint cannot be meant to be understood by everyone - not even those 'who are not entirely illiterate', as he testily warned us in the very first sentence of his huge tome. This particular work by Proclus is extremely difficult to read, and the Thomas Taylor translation has neither any index nor any form of table of contents by which to locate subjects, names or references in the text. The Lipsiae Greek text has an index, but there is no means of correlating it with the Taylor translation, which has no textual numbering.

Can this reference to 'invisible circulations' refer to the invisible circulations of the companion of Sirius? The answer to this question cannot be a final 'no', and the possibility must be seriously considered when we read these next opinions of Proclus from *In Tim.* Book IV (II,28i): As Aristotle, however, inquires why the sphere of the fixed stars, being one, comprehends many stars, but in each of the planetary spheres, which are many, there is only one star, the solution of this conformably to his own opinion may be obtained from his writings. But we have already said something concerning this, and now agreeably to what has been before asserted, we say, that *each of the planets is a whole world, comprehending in itself many divine genera invisible to us. Of all these however, the visible star has the government ... in each of the (planetary spheres) there are invisible stars, which revolve together with their spheres;* so that in each,

there is both the wholeness, and a leader which is allotted an exempt transcendence... . *each of the spheres is a world*; theologians also teaching us these things when they say that there are Gods in each prior to daemons, some of which are under the government of other.... from all which it is evident that *each of the planets is truly said to be the leader of many Gods, who give completion to its peculiar circulation.*

Taylor, in a footnote, rightly calls this an 'extraordinary passage' of the treatise! Italics above are mine.

Elsewhere Proclus says (*In Tim.*, II, 260): 'There are, however, other divine animals following the circulations of the planets, the leaders of which are the seven planets.' Taylor adds to this in a footnote: 'And these, as we have before observed, are what the moderns call *satellites*.' In another of his publications, Thomas Taylor writes, as introduction to his translation of Plato's *Timaeus* itself:¹⁵

(For) each of these spheres ... as we have already explained, it follows that every planet has a number of satellites surrounding it, analogous to the choir of fixed stars; and that every sphere is full of gods, angels, and daemons, subsisting according to the properties of the spheres in which they reside. This theory indeed is the grand key to the theology of the ancients, as it shews us at one view why the same god is so often celebrated with the names of other gods; which led Macrobius formerly to think that all the gods were nothing more than the different powers of the sun; and has induced the superficial, *index-groping* moderns to frame hypotheses concerning the ancient theology, so ridiculous that they deserve to be considered in no other light than the ravings of a madman, or the undisciplined conceptions of a child. But that the reader may be convinced of this, let him attend to the following extraordinary passages from the divine commentaries of Proclus on the *Timaeus*. And in the first place, that every planet is attended with a great number of satellites, is evident from the following citation: 'There are other divine animals attending upon the circulations of the planets, the leaders of which are the seven p'anets; and these revolve and return in their circulations in conjunction with their leaders, just as the fixed stars are

governed by the circulation of the inerratic sphere.’ [p. 279]... And in the same place he informs us, that the revolution of these satellites is similar to that of the planets which they attend; and this, he acquaints us a little before, is according to Plato a spiral revolution... . (and) ‘about every planet there is a number (of satellites) ... all of them subsisting with proper circulations of their own’ [p. 275].

The reader should note that Thomas Taylor describes this knowledge as ‘the grand key to the theology of the ancients’. We know from a fragment of Damascius¹⁰ the Neoplatonist that ‘the Egyptian philosophers, who are resident among us, have explained their occult truth, having obtained it from certain Egyptian discourses. According to them, then, it appears to be this. The One principle of the Universe is celebrated as Unknown Darkness, and this three times pronounced as such ...’ But wherever the information came from, the fact is that Proclus and his Neoplatonic colleagues believed the ultimate secrets of religion concerned two things: the invisible ‘Dark’ and invisible circulations of certain heavenly bodies, some of which were non-esoteric enough even to be specified, namely the satellites of our planetary system. Proclus winds up a dissertation on the source of this knowledge from ‘sacred rumour’ which concerns ‘invisible circulations’ also on page 247 of *In Tim.*, II.

Since Proclus specifically describes here and in the passage from *In Tim.* II, 281, the orbits of the heavenly bodies as their ‘circulations’ (Taylor’s choice of English), the ‘invisible circulations’ which he mentioned must be invisible orbits of heavenly bodies, and he also tells us that there are invisible heavenly bodies. So ... what invisible orbitings of invisible heavenly bodies are so important that they can, as Proclus just told us, ‘enable us to commence the contemplation of celestial bodies’ and vice versa? Is that not a most curious thought? How can he possibly mean that there are invisible orbitings so important that they may be set against the visible orbitings for importance, the one complementing the other even to the very base of our abilities to contemplate the heavens? The key to the paragraph from Proclus II, 281, is the expression in it: ‘theologians teaching us these things’. For in those words Proclus firmly identifies these ideas with a

theological as opposed to philosophical tradition, and hence one connected with one of more of his mystery religions. This is just the evidence we need. For it is these mystery religions which we know contained the essence of the Sirius mystery as their secret doctrine. And also, as we have seen earlier, Proclus sought to interpret Plato in terms of an esoteric tradition with which Proclus himself was connected directly, as an initiate.

So we see that Proclus believed that invisible ‘stars’ existed which accompanied the planets, and that each of the planets was a world. And the visible star, that is the planet, ‘has the government’ over the invisible satellites in each case. How very like the Sirius tradition this is! And as we know from Chapter One of this book, the Dogon also knew of the moons of at least one of the planets, so that knowledge of them seems likely to have been part and parcel of the Sirius mystery. Can we then conclude that Proclus may be one further person with knowledge of the Sirius mystery?

Proclus is more specific about his planetary moons elsewhere. In his work the *Platonic Theology*, Chapter XIV of Book VII (Vol. II, pages 140-1 of Taylor’s translation), we read: But the planets are called the Governors of the world (cosmocrators), and are allotted a total power. As the inerratic sphere too has a number of starry animals, so each of the planets is the leader of a multitude of animals, or of certain other things of this kind. ... In each of the planetary spheres, therefore, there is a number of satellites analogous to the choir of the fixed stars, subsisting with proper circulations of their own. The revolution also of these satellites is similar to that of the planets which they follow: and this according to Plato is a spiral revolution. With respect, likewise, to these satellites, the first in order about every planet are Gods; after these daemons revolve in lucid orbicular bodies; and these are followed by partial souls such as ours.

Taylor comments in a footnote in *In Tim.* Book IV (II, 299): ‘For “the natures successive” to the stars, are evidently their satellites, which have more than once been mentioned by Proclus.’ On the same page a second footnote adds: ‘From what is here said by Proclus, it appears that the fixed stars, as well as the planets, have satellites, and that the stars which sometimes are visible, and at other times

disappear, are of this description.'

This brings us extremely close to an outright statement of the principles of the Sirius mystery - but without any names. These footnotes are to the passage immediately following the one given a moment ago where we first considered Proclus's cryptic reference to the 'invisible circularities'. It is interesting to note that the passage is in the form of a commentary on a specific passage in Plato's *Timaeus* (40-c), which is not only one of the most maddeningly obscure passages in all of Plato ('Do you expect me to explain these mysteries', bewails a baffled George Sarton, p. 451, op. cit.) but a passage which Proclus quotes including missing words not otherwise known from the official text of today 1

And it is even more curious that the 'missing' words quoted by Proclus are: *kai ta toutois ephexes* of which Taylor says: 'These words, however, are not to be found in the text of Plato, but form a remarkable addition to it'. Taylor should know, as he had previously translated all of Plato's dialogues including this.

Since Proclus was head of the Academy, he may be assumed to have had a reliable copy of Plato's text in the Academy library. If he did not have a reliable copy of Plato's text in Plato's own Academy, what *did* he have a reliable text of? Hence these words must be entertained as a possibly correct version and should probably be added to the currently accepted text by classical scholars. The meaning of the words is translated by Taylor as: 'the natures successive' - that is successive to the stars. And Taylor's comment is 'For *the natures successive* to the stars, are evidently their satellites, which have more than once been mentioned by Proclus'.

The fact that a reference to the satellites of stars was dropped from the orthodox text of Plato should come as no real surprise to us. What scribe could fathom the meaning? In copying the manuscripts over the centuries, there creep in corruptions. A reference to satellites of stars would have been too shocking, considered too bizarre. In transmission the words must have been dropped as an incomprehensible aberration or an insertion. It was only in the Academy's own library that the original words were preserved, safe and musty, in the wrappings

of some really old bookrolls with which no one tampered textually. Only in the Academy would ravages against the text of the Master be forbidden.

I do not believe it is a coincidence that our search through Proclus for material relevant to the Sirius mystery has led us to a lost fragment of text of Plato's dialogue *Timaeus*. The fact that these words have been dropped from that dialogue - out of the entire body of Plato's work, which is otherwise so well documented from the myriad commentaries and citations over the centuries - illustrates the controversial nature of our subject as strikingly as any of the 'accidents' we have already encountered in our book. Our Sirius mystery is not letting us down. Every subject we have approached in connection with it has been suddenly transformed as in a magic mirror in a fun house. Nothing that seemed staid and settled has been able to remain in its mould. Even Plato's solid text begins to quiver like a live jelly. From out of so many ossified subjects have crept mysterious little creatures, which have done disrespectful dances on their premises, indicating that these subjects do not want to lie down and be declared dead. They are living. Inside them glow sylphs and secrets. We cannot force them to turn to stone.

It seems clear that the abandoned four words of text were probably dropped in order to avoid the enormous consequences which must follow upon their being retained: that Plato himself, though not particularly well acquainted with astronomy in an active professional sense, had apparently some links to a tradition which, by being esoteric, seemed to make no sense at all outside a secret 'mystery' context. This is true whether Plato wrote the passages himself or inserted the Pythagorean treatise which has been proposed (see later).

Plato's dialogue *Timaeus* is without doubt the most difficult and bizarre of the unquestioned Platonic writings (the *Epinomis* is more bizarre, but seems to have been written by Plato's disciple Philip of Opus). Let us examine a few remarks concerning this strange work, taken from George Sarton (op. cit.): 'There is more Oriental lore in the *Timaios* than Greek wisdom' (p. 423, note). 'The astrologic nonsense that has done so much harm in the Western world and is still poisoning weak-minded people today was derived from the *Timaios*, and Plato's astrology was itself an offshoot of the Babylonian one. In justice to Plato it must

be added that his own astrology remained serene and spiritual and did not degenerate into petty fortune telling' (p. 421). 'The influence of the *Timaios* upon later times was enormous and essentially evil' (p. 423). 'Many scholars were deceived into accepting the fantasies of that book as gospel truths. That delusion hindered the progress of science; and the *Timaios* has remained to this day a source of obscurity and superstition' (p. 430).

Those are strong words. The *Timaeus* (the more commonly used spelling in English) obviously arouses violent reactions in some! Here we see Sarton, one of the most distinguished and respected historians of science who ever lived, raving hysterically that the 'evil' *Timaeus* is responsible for 'hindering the progress of science'. Sarton's views of Plato in general are incredibly violent and hostile, though many of his criticisms of Plato are quite valid and reasonable if it were not for the purple prose. It is certainly true that there were many faults to Plato's theories, particularly his political ones which Aristotle rightly found so repulsive, and these rouse Sarton to a fury surpassing his slurs on the poor *Timaeus*. But this is common among expert scholars. They have to restrain themselves most of the time for purposes of professional poise and 'objective treatment'. But the mask can fracture and a raw nerve protrudes.

But as for the perplexity or ire which the *Timaeus* seems alternatively to arouse in so many of those who attempt to study it, we should realize that the tradition is probably true which says that the major portion of the dialogue, which consists of a lengthy speech by the character named Timaeus on the nature of the universe, is really not written by Plato, but was inserted by him as the words of an apparently imaginary character (or a disguised one). For many ancient sources maintained that this part of the dialogue was in reality a Pythagorean treatise which Plato obtained during one of his visits to Sicily. Rather than see the treatise disappear into obscurity, Plato is said to have entered it as the contribution of a character in a dialogue, using the discussion of the other characters as a means of setting it off to proper advantage. And it is this supposed Pythagorean treatise which contains all the material of interest to us in connection with the Sirius mystery. And as for the Pythagoreans, they represented a sacred community and a mystery tradition with roots in Egypt and

Babylon (of both of which countries Pythagoras himself was said to be an initiate into the mysteries).

I owe it to the reader to display the evidence that the passage in the *Timaeus* which is of such concern to us, and on which Proclus's commentary is based as it concerns the heavenly bodies, was not even written by Plato. I therefore quote from Book VIII, 85, of the *Lives of Eminent Philosophers* by Diogenes Laertius (the Loeb Library translation) :

Philolaus of Croton was a Pythagorean, and it was from him that Plato requests Dion to buy the Pythagorean treatises... . His doctrine is that all things are brought about by necessity and in harmonious interrelation. He was the first to declare that the earth moves in a circle (round the central fire), though some say it was Hicetas of Syracuse.

He wrote one book, and it was this work which, according to Hermippus, some writer said that Plato the philosopher, when he went to Sicily to Dionysius's court, bought from Philolaus's relatives for the sum of forty Alexandrine minas of silver [an 'equivalent value', for this was before Alexander], from which also the *Timaeus* was transcribed. Others say that Plato received it as a present for having procured from Dionysius the release of a young disciple of Philolaus who had been cast into prison.

According to Demetrius in his work on *Men of the Same Name*, Philolaus was the first to publish the Pythagorean treatises, to which he gave the title *On Nature*, beginning as follows: 'Nature in the ordered universe was composed of unlimited elements, and so was the whole universe and all that is therein.'

In line with this tradition that the treatise embodied into the Platonic *Timaeus* was of Pythagorean origin - and presumably from thence derived itself from

Egypt and Chaldaea (Babylonia) - we may read the following interesting remarks of Proclus from *In Tim.* Book IV (II, 273):

The Egyptians prior to (Hipparchos and Ptolemy), employing observations, and still prior to the Egyptians, the Chaldaeans (Babylonians), being taught by the gods, prior to observations, were of a similar opinion to Plato, concerning the motion of the fixed stars. For the Oracles not once only but frequently speak of the advancing procession of the fixed stars.

Note the pointed expression ‘taught by the gods, prior to observations’. This highlights the aspect of the tradition as one imparted to men ‘by the gods’ and then later carried on in concert with observations by the ancient Egyptians. Without my going into a minute discussion of Pythagoreanism, Orphism, and what Proclus calls ‘the Oracles’, I hope the reader will have gathered sufficient idea of the gist of the matter.

We see that Proclus, using a slender but nevertheless substantial basis of Plato’s apparently ancient Pythagorean book *On Nature*, as it is preserved in his *Timaeus*, insisted that the planets had moons, that stars also had satellites, that there were invisible bodies in space with invisible orbits which were somehow of immense importance to us, that ‘the gods’ instructed the ancient peoples of the Middle East in these astronomical facts which were preserved as ‘Pythagorean and Orphic’ traditions in the Greek world, that epicycles and other fashionable devices to explain astronomical motions were total nonsense, that the ‘spheres’ did not revolve but only the planets in them, and hinted at the rotation of the Earth on its axis.

Proclus was, furthermore, a known initiate of the mystery cults of the Egyptians and Babylonians and had a particular connection with rites involving Hecate, the goddess whom we know to be a form of the star Sirius. We may, therefore, conclude that Proclus is of possible interest to us in our relentless pursuit of the Sirius mystery. For he may have known its secrets and made use of

the principles of that secret tradition through the indirect means of his more general writings - by hinting broadly at 'invisible orbits' without specifying all of them, and insisting on their importance without giving any really satisfactory reasons. He seems to have been trying to get the principles across without breaking sacred vows against the revealing of the specifics of the case. As he was extremely religious, we know from his character that he would honour such vows. But as he was passionately devoted to making known the general principles of the universe, he would have done exactly what it seems he did do - tell us the story without giving the names of the characters.

A closer study of Proclus in the future would certainly be rewarding. There are certainly other relevant passages in his works which remain to be dealt with. But we have seen that we must now re-examine Plato as well, for his *Timaeus* has been shown by Proclus to be a more mysterious work than even the most exasperated scholars had ever suspected.¹⁷ And the net of the Sirius mystery is meanwhile seen to spread ever wider through the ancient traditions and literature of all eras.

Two contemporaries of Proclus, named Macrobius and Martianus Capella, also wrote advanced astronomical theories, and both were also in the Neoplatonic tradition. They advocated the notion that the Earth went around the sun. When three people in one tradition at one time write and discuss such advanced material, then a milieu may be said to exist.¹⁸ But, of course, the historians of science have not yet got around to noticing this inconvenient little thing. Nor have they bothered to let us know much about Johannes Scotus Eriugena (otherwise known as John the Scot or Erigena, which is a misspelling) of the ninth century A.D., who promulgated the theories of Macrobius and Martianus Capella at the court of Charles the Bald, and wrote a mammoth philosophical work titled *Periphyseon* of half a million words. The latter is now being published slowly in English by the Irish Government, who have decided that Eriugena (which means 'Irish-born') was one of their great native sons and they had better make the most of him. Alas. If only Proclus too had been born in Ireland. Perhaps this is the only way to get these things into print - or even into English. Can't someone invent some more little countries looking for famous sons, and then allocate the sons? That way we might have something of a

cultural revival. The Renaissance was due to the rediscovery of the Platonic tradition by the Florentines. When will we discover it?

This Appendix was conceived, researched, and written after the manuscript of the book had already been accepted for publication. It therefore suffers from tenuous treatment and scanty attire. But perhaps a little Proclus is better than none at all. In a desert no one gainsays a drop of water. ,,

Notes

1. *Elements of Theology*, ed. and trans, by E. R. Dodds, Oxford, 1963.
2. *Commentary on the First Book of Euclid's Elements*, trans, by Professor Glenn Morrow, Princeton University Press, 1970.
3. *Commentary on the First Alcibiades of Plato*, trans, by W. O'Neill, The Hague, 1965.
4. *Corpus Platonicum Medii Aevi* Series, ed. by R. Klibansky; Vol. III of *Plato Latinus (Parmenides, Proclus in Parmenidem)*. Includes English translation by G. E. M. Anscombe and L. Labowsky. Warburg Institute, London, 1953. Obtainable: as Kraus Reprint, Nendeln, Liechtenstein, 1973-5. See Bibliography. Ref. page 400.
6. *The Cambridge History of Later Greek (5 Early Mediaeval Philosophy*, ed. by A. H. Armstrong, Cambridge, 1970.

7. There is a Life of Proclus written by his student and successor Marinus. It was translated by Thomas Taylor and appears in Volume I of *The Philosophical and Mathematical Commentaries of Proclus on the First Book of Euclid's Elements*, London, 1792. A more recent publication of it in English may be found in *The Philosophy of Proclus* by L. J. Rosan, Cosmos, New York, 1949.

8. *Hellenistic Religions* ed. by F. C. Grant, in Library of Liberal Arts series, Bobbs-Merrill, Indianapolis and New York, 1953. English translations of four hymns by Proclus are found on pp. 170-2. (In all, seven hymns and a fragment of an eighth by Proclus survive today.) 9. In vol. V of *Plutarch's Morals*, ed. by W. W. Goodwin, Boston, 1874. The translation of 'Platonic Questions' is by R. Brown and on pp. 425-49.

10. *History of Science*, see note 16, page 159.

11. See Life of Xenocrates in Diogenes Laertius, *Lives of Eminent Philosophers*, 2 vols., trans, by R. D. Hicks, Loeb Library series; Heinemann, London; Harvard University Press, U.S.A., 1966.

12. Translation included in the same volume as in note 9 above. Also in Loeb Library.

13. Three short complete works of Kepler are in English: *Kepler's Dream*, trans, with full text and notes, of *Somnium, Sive Astronomia Lunaris*, by John Lear and P. F. Kirkwood, University of California Press, Berkeley and Los Angeles, 1965. *Kepler's Conversation with Galileo's Sidereal Messenger*, trans, by Edward Rosen, no. 5 of 'Sources of Science' series, Johnson Reprint Corp., London and New York, 1965. Also there is a brief treatise by Kepler on the *Six-Cornered Snowflake*, trans, by Colin Hardie and L. L. Whyte, Oxford University Press, 1965. Two chapters (IV and V) of Kepler's *Epitome of Copernican*

Astronomy and one chapter (V) of his *Harmonies of the World* are in English, trans, by C. G. Wallis in vol. 16, *Ptolemy, Copernicus, Kepler*, of the 'Great Books of the Western World' series, Encyclopaedia Britannica, Inc., Chicago, London, Toronto, 1952. A second translation of Kepler's *Dream* has appeared: *Kepler's Somnium*, trans, and commentary by Edward Rosen, University of Wisconsin Press, 1967.

14. See previous note.

15. *The Cratylus, Phaedo, Parmenides and Timaeus with notes on the Cratylus*, English trans, of Plato by Thomas Taylor with notes, London, 1793. The quotation is from p. 388, in Taylor's Introduction to the *Timaeus*. The copy of this book which I consulted once belonged to the poet Percy Bysshe Shelley, and may be found in the Shelley collection at the Bodleian Library in Oxford.

16. Preserved and trans, in Cory, *Ancient Fragments*, 2nd ed., p. 32a
17. Marinus, in his Life of Proclus, tells us that Proclus was twenty-eight years old when he wrote *In Tim.*, which gives the date a.d. 438 at beginning of appendix.

18. I did not think it right to take space here to enter into a full discussion of the generally ignored ancient heliocentric theories of Macrobius, Martianus Capella, Julian the Emperor (Apostate), Nicholas of Cusa, and so on. As an example of this tradition (which Proclus mentioned and rejected, mistakenly thinking that Plato had done so), I quote a passage from the Fourth Oration (to Helios) of the Emperor Julian the Apostate, 146 C-D, which may be found in the Loeb Library series, which publishes the works of Julian in three vols: 'For it is evident that the planets, as they dance in a circle about (the Sun), preserve as the measure of their motion a harmony between this god and their own movements. ... To the Greeks what I say is perhaps incomprehensible - as though one were obliged to say to them only what is known and familiar.' This indicates a distinctly esoteric tradition which was imbibed from Julian's friend and teacher the Neoplatonist Iamblichus, a predecessor of Proclus. For just before this

passage, Julian had said: 'Iamblichus of Chalcis, who through his writings initiated me not only into other philosophic doctrines but these also ... (he is) by no means inferior to (Plato) in genius . ..' I also refer the reader to 135 B of the same oration by Julian for further exposition of Julian's heliocentric ideas, all of which we may treat as fragments of lost writings of Iamblichus. I also suggest consulting Thomas Whittaker's *Macrobius*, Cambridge, 1923. On page 75 we find him summarizing Macrobius's beliefs: 'Mercury and Venus (have) orbits ... in which they follow the sun as satellites'. Unfortunately, no works of Martianus Capella exist in English.

SUMMARY

WHAT PROCLUS KNEW

1. The Ptolemaic theory of the heavens is totally wrong.
2. The moon is made of 'earth' which is placed in a celestial situation, hence 'celestial earth'.
3. The planets themselves revolve, rather than their 'spheres'. They do so 'within their spheres (or orbits)'.
4. The stars all rotate on their own axes.
5. The planets all rotate on their own axes.
6. The planets become 'more remote from and nearer to the earth' in their revolutions.
7. The heavens contain all the four elements in varying proportions but tend to do so according to a 'fiery mode'. The 'fire' in the stars is different from earthly

fire and is more properly ‘energy’. (Earthly fire is a dark and debased form of true fire, or as Proclus expresses it: ‘the dregs and sediment of fire’.) 8. The heliocentric theory of Heracleides Ponticus is mentioned by Proclus, but rejected by him on the grounds that Plato rejected it. (Although we know from Theophrastus that Plato did accept it when old, Proclus did not know this.) 9. The planets have invisible satellites which revolve around them.

10. Certain fixed stars have invisible satellites too.

11. These invisible orbitings are as important as the visible ones to us, and can ‘enable us to commence the contemplation of celestial bodies’.

12. Each planet or star is ‘a world’.

13. Proclus was initiated into the Egyptian and Babylonian mysteries and would thus have known about the Sirius mystery.

APPENDIX II

The Surviving Fragments of Berossus, in English Translation

Note: The following fragments are published here for the first time since 1876 in order to make them readily available to the reader. Regrettably, the original Greek text is not here included, but may be found in Cory, *The Ancient Fragments* (for which, see Bibliography).

These ancient fragments give accounts of the Babylonian tradition that civilization was originally founded by amphibious beings known as Oannes, Musari, or Annedoti (in Greek). This tradition is in striking agreement with the Dogon tradition of the amphibious Nommos, or ‘Monitors’, who came from the

system of Sirius to found civilization on earth.

FRAGMENT OF BEROSSUS

FROM APOLLODORUS

Of the Chaldaean Kings

This is the history which Berossus has transmitted to us. He tells us that the first king was Alorus of Babylon, a Chaldaean; he reigned ten sari: and afterwards Alaparus, and Amelon who came from Pantibiblon: then Ammenon the Chaldaean, in whose time appeared the Musarus Oannes the Annedotus from the Erythraean sea. (But Alexander Polyhistor anticipating the event, has said that he appeared in the first year; but Appollodorus says that it was after forty sari; Abydenus, however, makes the second Annedotus appear after twenty-six sari.) Then succeeded Megalarus from the city of Pantibiblon; and he reigned eighteen sari: and after him Daonus the shepherd from Pantibiblon reigned ten sari; in his time (he says) appeared again from the Erythraean sea a fourth Annedotus, having the same form with those above, the shape of a fish blended with that of a man. Then reigned Euedoreschus from Pantibiblon, for the term of eighteen sari; in his days there appeared another personage from the Erythraean sea like the former, having the same complicated form between a fish and a man, whose name was Odacon. (All these, says Apollodorus, related particularly and circumstantially whatever Oannes had informed them of: concerning these Abydenus has made no mention.) Then reigned Amempsinus, a Chaldaean from Laranchae; and he being the eighth in order reigned ten sari. Then reigned Otiartes, a Chaldaean, from Laranchae; and he reigned eight sari. And upon the death of Otiartes, his son Xisuthrus reigned eighteen sari: in his time happened the great deluge. So that the sum of all the kings is ten; and the term which they

collectively reigned an hundred and twenty sari. - *Syncel. Chron.* 39. *Euseb. Chron.* 5.

FRAGMENTS OF BEROSSUS

FROM ABYDENUS *Of the Chaldaean Kings and the Deluge* So much concerning the wisdom of the Chaldaeans.

It is said that the first king of the country was Alorus, who gave out a report that he was appointed by God to be the Shepherd of the people: he reigned ten sari: now a sarus is esteemed to be three thousand six hundred years; a nerus six hundred; and a sossus sixty.

After him Alaparus reigned three sari: to him succeeded Amillarus from the city of Pantibiblon, who reigned thirteen sari; in his time a semidaemon called Annedotus, very like to Oannes, came up a second time from the sea; after him Ammenon reigned twelve sari, who was of the city of Pantibiblon: then Megalarus of the same place eighteen sari: then Daos, the shepherd, governed for the space of ten sari; he was of Pantibiblon; in his time four double-shaped personages came out of the sea to land, whose names were Euedocus, Eneugamus, Eneuboulus, and Anementus: after these things was Anodaphus, in the time of Euedoreschus. There were afterwards other kings, and last of all Sisithrus: so that in the whole, the number amounted to ten kings, and the term of their reigns to an hundred and twenty sari. (And among other things not irrelative to the subject, he continues thus concerning the deluge:) After Euedoreschus some others reigned, and then Sisithrus. To him the deity Cronus foretold that on the fifteenth day of the month Desius there would be a deluge, and commanded him to deposit all the writings whatever that he had, in the city of the Sun in Sippara. Sisithrus, when he had complied with these commands, instantly sailed to Armenia, and was immediately inspired by God. During the prevalence of the waters Sisithrus sent out birds, that he might judge if the flood

had subsided. But the birds passing over an unbounded sea, and not finding any place of rest, returned again to Sisithrus. This he repeated. And when upon the third trial he succeeded, for they then returned with their feet stained with mud, the gods translated him from among men. With respect to the vessel, which yet remains in Armenia, it is a custom of the inhabitants to form bracelets and amulets of its wood. - *Syncel.* 38. - *Euseb. Praep. Evan.* lib. 9. - *Euseb. Chron.* 5. 8..

„ *Of the Tower of Babel*

They say that the first inhabitants of the earth, glorying in their own strength and size, and despising the gods, undertook to raise a tower whose top should reach the sky, where Babylon now stands: but when it approached the heaven, the winds assisted the gods, and overturned the work upon its contrivers: and its ruins are said to be at Babylon: and the gods introduced a diversity of tongues among men who till that time had all spoken the same language: and a war arose between Cronus and Titan: but the place in which they built the tower is now called Babylon, on account of the confusion of the tongues; for confusion is by the Hebrews called Babel. - *Euseb. Praep. Evan.* lib. 9. - *Syncel. Chron.* 44. - *Euseb. Chron.* 13.

FRAGMENTS OF BEROSSUS

FROM ALEXANDER POLYHISTOR

Of the Cosmogony and Causes of the Deluge

Berosus, in his first book concerning the history of Babylonia, informs us that he lived in the time of Alexander the son of Philip. And he mentions that there were written accounts preserved at Babylon with the greatest care, comprehending a term of fifteen myriads of years. These writings contained a history of the heavens and the sea; of the birth of mankind; also of those who had sovereign rule; and of the actions.achieved by them.

And in the first place he describes Babylonia as a country which lay between the Tigris and Euphrates. He mentions that it abounded with wheat, barley, ocrus, sesamum; and in the lakes were found the roots called gongae, which were good to be eaten, and were in respect to

s.M.—13 nutriment like barley. There were also palm trees and apples, and most kinds of fruits; fish too and birds; both those which are merely of flight, and those which take to the element of water. The part of Babylonia which is bordered upon Arabia, was barren, and without water; but that which lay on the other side had hills, and was fruitful. At Babylon there was (in these times) a great resort of people of various nations, who inhabited Chaldea, and lived without rule and order like the beast of the field.

In the first year there made its appearance, from a part of the Erythraean sea which bordered upon Babylonia, an animal endowed with reason, who was called Oannes. (According to the account of Apollodorus) the whole body of the animal was like that of a fish; and had under a fish's head another head, and also feet below, similar to those of a man, subjoined to the fish's tail. His voice too, and language, was articulate and human; and a representation of him is preserved even to this day.

This Being in the daytime used to converse with men; but took no food at that season; and he gave them an insight into letters and sciences, and every kind of art. He taught them to construct houses, to found temples, to compile laws, and explained to them the principles of geometrical knowledge. He made them distinguish the seeds of the earth, and shewed them how to collect fruits; in short, he instructed them in every thing which could tend to soften manners and humanize mankind. From that time, so universal were his instructions, nothing has been added material by way of improvement. When the sun set, it was the custom of this Being to plunge again into the sea, and abide all night in the deep; for he was amphibious.

After this there appeared other animals like Oannes, of which Berossus promises to give an account when he comes to the history of the kings.

Moreover Oannes wrote concerning the generation of mankind; of their different ways of life, and of their civil polity; and the following is the purport of

what he said:

‘There was a time in which there was nothing but darkness and an abyss of waters, wherein resided most hideous beings, which were produced of a two-fold principle. Men appeared with two wings, some with four and with two faces. They had one body but two heads; the one of a man, the other of a woman. They were likewise in their several organs both male and female. Other human figures were to be seen with the legs and horns of goats. Some had horses’ feet; others had the limbs of a horse behind, but before were fashioned like men, resembling hippocentaurs. Bulls likewise bred there with the heads of men; and dogs with fourfold bodies, and the tails of fishes. Also horses with the heads of dogs: men too and other animals, with the heads and bodies of horses and the tails of fishes. In short, there were creatures with the limbs of every species of animals. Add to these fishes, reptiles, serpents, with other wonderful animals, which assumed each other’s shape and countenance. Of all these were preserved delineations in the temple of Belus at Babylon.

‘The person, who was supposed to have presided over them, was a woman named Omoroca; which in the Chaldaic language is Thalath; which the Greeks express Thalassa, the sea: but according to the most true computation, it is equivalent to Selene, the moon. All things being in this situation, Belus came, and cut the woman asunder: and out of one half of her he formed the earth, and of the other half the heavens; and at the same time destroyed the animals in the abyss. All this (he says) was an allegorical description of nature. For the whole universe consisting of moisture, and animals being continually generated therein; the deity (Belus) above-mentioned cut off his own head: upon which the other gods mixed the blood, as it gushed out, with the earth; and from thence men were formed. On this account it is that they are rational, and partake of divine knowledge. This Belus, whom men call Dis, divided the darkness, and separated the Heavens from the Earth, and reduced the universe to order.’ But the animals so lately created, not being able to bear the prevalence of light, died. Belus upon this, seeing a vast space quite uninhabited, though by nature very fruitful, ordered one of the gods to take off his head; and when it was taken off, they were to mix the blood with the soil of the earth; and from thence to form other men and animals, which should be capable of bearing the light. Belus also formed the stars, and the sun, and the moon, together with the five planets.’ (Such are the contents of the first book of Berossus.)

(In the second book was the history of the ten kings of the Chaldeans, and the periods of each reign, which consisted collectively of an hundred and twenty sari, or four hundred and thirty-two thousand years; reaching to the time of the Deluge. For Alexander, following the writings of the Chaldaeans, enumerating the kings from the ninth Ardates to Xisuthrus, who is called by them the tenth, proceeds in this manner:)

After the death of Ardates, his son Xisuthrus succeeded, and reigned eighteen sari. In his time happened the great Deluge; the history of which is given in tjiis manner. The Deity, Cronus, appeared to him in a vision, and gave him notice that upon the fifteenth day of the month Daesius there would be a flood, by which mankind would be destroyed.

He therefore enjoined him to commit to writing a history of the beginning, procedure, and final conclusion of all things, down to the present term; and to bury these accounts securely in the city of the Sun at Sippara; and to build a vessel, and to take with him into it his friends and relations; and to convey on board every thing necessary to sustain life, and to take in also all species of animals, that either fly or rove upon the earth; and trust himself to the deep. Having asked the Deity, whither he was to sail? he was answered, 'To the Gods:' upon which he offered up a prayer for the good of mankind. And he obeyed the divine admonition: and built a vessel five stadia in length, and two in breadth. Into this he put every thing which he had got ready; and last of all conveyed into it his wife, children, and friends. After the flood had been upon the earth, and was in time abated, Xisuthrus sent out some birds from the vessel; which not finding any food, nor any place to rest their feet, returned to him again. After an interval of some days, he sent them forth a second time; and they now returned with their feet tinged with mud. He made a trial a third time with these birds; but they returned to him no more; from whence he formed a judgment, that the surface of the earth was now above the waters. Having therefore made an opening in the vessel, and finding upon looking out, that the vessel was driven to the side of a mountain, he immediately quitted it, being attended by his wife, his daughter, and the pilot. Xisuthrus immediately paid his adoration to the earth: and having constructed an altar, offered sacrifices to the gods. These things being duly performed, both Xisuthrus and those who came out of the vessel with him disappeared. They, who remained in the vessel, finding that the others did not return, came out with many lamentations, and called continually on the name

of Xisuthrus. Him they saw no more; but they could distinguish his voice in the air, and could hear him admonish them to pay due regard to the gods; and likewise inform them that it was upon account of his piety that he was translated to live with the gods; that his wife and daughter, with the pilot, had obtained the same honour. To this he added that he would have them make the best of their way to Babylonia, and search for the writings at Sippara, which were to be made known to all mankind: and that the place where they then were was the land of Armenia. The remainder having heard these words, offered sacrifices to the gods; and taking a circuit, journeyed towards Babylonia.

The vessel being thus stranded in Armenia, some part of it yet remains in the Corcyraean (or Cordyeon mountains - *Corduarum montibus*; Ea. Ar.) mountains in Armenia; and the people scrape off the bitumen, with which it had been outwardly coated, and make use of it by way of an alexipharmic and amulet. In this manner they returned to Babylon; and having found the writings at Sippara, they set about building cities, and erecting temples: and Babylon was thus inhabited again. - *Syncel. Chron.* 28 - *Euseb. Chron.* 5. 8.

FRAGMENTS OF BEROSSUS

FROM JOSEPHUS, *ETC.*

Of Abraham

After the deluge, in the tenth generation, was a certain man among the Chaldaeans renowned for his justice and great exploits, and for his skill in the celestial sciences. - *Euseb. Praep. Evan.* lib. 9.

Of Nabonasar

From the reign of Nabonasar only are the Chaldaeans (from whom the Greek mathematicians copy) accurately acquainted with the heavenly motions: for Nabonasar collected all the mementos of the kings prior to himself, and destroyed them, that the enumeration of the Chaldaean kings might commence with him. - *Syncel. Chron.* 207.

Of the Destruction of the Jewish Temple

He (Nabopolassar) sent his son Nabuchodonosor with a great army against Egypt, and against Judea, upon his being informed that they had revolted from him; and by that means he subdued them all, and set fire to the temple that was at Jerusalem; and removed our people entirely out of their own country, and transferred them to Babylon, and it happened that our city was desolate during the interval of seventy years, until the days of Cyrus king of Persia. (He then says, that) this Babylonian king conquered Egypt, and Syria, and Phoenicia and Arabia, and exceeded in his exploits all that had reigned before him in Babylon and Chaldaea.-*Joseph, contr. Appion.* lib. 1. c. 19.

Of Nebuchadnezzar

When Nabopolassar his (Nabuchodonosor's) father, heard that the governor, whom he had set over Egypt, and the parts of Coelesyria and Phoenicia, had revolted, he was unable to put up with his delinquencies

any longer, but committed certain parts of his army to his son Nabuchodonosor, who was then but young, and sent him against the rebel; and Nabuchodonosor fought with him, and conquered him, and reduced the country again under his dominion. And it happened that his father, Nabopolassar, fell into a distemper at this time and died in the city of Babylon, after he had reigned twenty-nine years.

After a short time Nabuchodonosor, receiving the intelligence of his father's death, set the affairs of Egypt and the other countries, in order, and committed the captives he had taken from the Jews, and Phoenicians, and Syrians, and of the nations belonging to Egypt, to some of his friends, that they might conduct that part of the forces that had on heavy armour, with the rest of his baggage, to Babylonia; while he went in haste, with a few followers, across the desert to Babylon; where, when he was come, he found that affairs had been well conducted by the Chakjaeans, and that the principal person among them had preserved the kingdom for him: accordingly he now obtained possession of all his father's dominions. And he ordered the captives to be distributed in colonies in the most proper places of Babylonia: and adorned the temple of Belus, and the other temples, in a sumptuous and pious manner, out of the spoils he had taken in this war. He also rebuilt the old city, and added another to it on the outside, and so far restored Babylon, that none, who should besiege it afterwards, might have it in their power to divert the river, so as to facilitate an entrance into it: and this he did by building three walls about the inner city, and three about the outer. Some of these walls he built of burnt brick and bitumen, and some of brick only. When he had thus admirably fortified the city with walls, and had magnificently adorned the gates, he added also a new palace to those in which his forefathers had dwelt, adjoining them, but exceeding them in height, and in its great splendor. It would perhaps require too long a narration, if any one were to describe it: however, as prodigiously large and magnificent as it was, it was finished in fifteen days. In this palace he erected very high walks, supported by

stone pillars; and by planting what was called a pensile paradise, and replenishing it with all sorts of trees, he rendered the prospect an exact resemblance of a mountainous country. This he did to please his queen, because she had been brought up in Media, and was fond of a mountainous situation. - *Joseph, contr. Appion. lib. i. c. 19. - Syncel. Chron. 220. - Euseb. Praep. Evan. lib. 9.*

Of the Chaldaean Kings after Nebuchadnezzar

Nabuchodonosor, after he had begun to build the above-mentioned wall, fell sick, and departed this life, when he had reigned forty-three years; whereupon his son Evilmerodachus obtained the kingdom. He governed public affairs in an illegal and improper manner, and by means of a plot laid against him by Neriglissorus, his sister's husband, was slain when he had reigned but two years.

Upon his death Neriglissorus, who had conspired against him, succeeded him in the kingdom, and reigned four years.

His son Laborosoarchodus inherited the kingdom though he was but a child, and kept it nine months; but by reason of the evil practices he exhibited, a plot was laid against him by his friends, and he was tortured and killed.

After his death, the conspirators assembled, and by common consent put the crown upon the head of Nabonnedus, a man of Babylon, and one of the leaders of that insurrection. In his reign it was that the walls of the city of Babylon were curiously built with burnt brick and bitumen.

But in the seventeenth year of his reign, Cyrus came out of Persia with a great

army, and having conquered all the rest of Asia, he came hastily to Babylonia. When Nabonnedus perceived he was advancing to attack him, he assembled his forces and opposed him, but was defeated, and fled with a few of his attendants, and was shut up in the city Borsippus. Whereupon Cyrus took Babylon, and gave orders that the outer walls should be demolished, because the city had proved very troublesome to him, and difficult to take. He then marched to Borsippus, to besiege Nabonnedus; but as Nabonnedus delivered himself into his hands without holding out the place, he was at first kindly treated by Cyrus, who gave him an habitation in Carmania, but sent him out of Babylonia. Accordingly Nabonnedus spent the remainder of his time in that country, and there died. - *Joseph, contr. App. lib. i. c. 20. - Euseb. Praep. Evan. lib. io.*

Of the Feast of Sacea

Berosus, in the first book of his Babylonian history, says; That in the eleventh month, called Loos, is celebrated in Babylon the feast of Sacea for five days; in which it is the custom that the masters should obey their domestics, one of whom is led round the house, clothed in a royal garment, and him they call Zoganes. - *Athenaeus, lib. 14.*

FRAGMENT OF MEGASTHENES

FROM ABYDENUS

Of Nebuchadnezzar

Abydenus, in his history of the Assyriaas, has preserved the following fragment

of Megasthenes, who says: That Nabucodrosorus, having become more powerful than Hercules, invaded Libya and Iberia, and when he had rendered them tributary, he extended his conquests over the inhabitants of the shores upon the right of the sea. It is moreover related by the Chaldaeans, that as he went up into his palace he was possessed by some god; and he cried out and said: 'Oh! Babylonians, I, Nabucodrosorus, foretell unto you a calamity which must shortly come to pass, which neither Belus my ancestor, nor his queen Beltis, have power to persuade the Fates to turn away. A Persian mule shall come, and by the assistance of your gods shall impose upon you the yoke of slavery: the author of which shall be a Mede, the foolish pride of Assyria. Before he should thus betray my subjects, Oh! that some sea or whirlpool might receive him, and his memory be blotted out for ever; or that he might be cast out to wander through some desert, where there are neither cities nor the trace of men, a solitary exile among rocks and caverns, where beasts and birds alone abide. But for me, before, he shall have conceived these mischiefs in his mind, a happier end will be provided.'

When he had thus prophesied, he expired: and was succeeded by his son Evilmaluruchus, who was slain by his kinsman Neriglisares: and Neriglisares left Labassoarascus his son: and when he also had suffered death by violence, they made Nabannidochus king, being no relation to the royal family; and in his reign Cyrus took Babylon, and granted him a principality in Carmania.

And concerning the rebuilding of Babylon by Nabuchodonosor, he writes thus: It is said that from the beginning all things were water, called the sea (Thalatth?): that Belus caused this state of things to cease, and appointed to each its proper place: and he surrounded Babylon with a wall: but in process of time this wall disappeared: and Nabuchodonosor walled it in again, and it remained so with its brazen gates until the time of the Macedonian conquest. And after other things he says: Nabuchodonosor having succeeded to the kingdom, built the walls of Babylon in a triple circuit in fifteen days; and he turned the river Armacale, a branch of the Euphrates, and the Acra-canus: and above the city of Sippara he dug a receptacle for the waters, whose perimeter was forty parasangs, and whose depth was twenty cubits; and he placed gates at the entrance thereof, by opening which they irrigated the plains, and these they call Echetognomones (sluices): and he constructed dykes against the irruptions of the Erythraean sea,

and built the city of Teredon against the incursions of the Arabs; and he adorned the palace with trees, calling them hanging gardens. -*Euseb. Praep. Evan.* lib. io.
- *Euseb. Chron.* 49.

FRAGMENT OF JULIAN THE EMPEROR (reigned A.D. 360-3)

From Cyril's *Contra Julianum* V, 176 (Migne), we have this fragment of Julian's lost work *Against the Christians*'.

That God, however, has not cared for the Hebrews only, but rather that in His love for all nations He hath bestowed on the Hebrews nothing worth very serious attention, whereas He has given us far greater and superior gifts, consider from what will follow. The Egyptians, counting up of their own race the names of not a few sages, can also say they have had many who have followed in the steps of Hermes. I mean of the Third Hermes who used to come down to them in Egypt. The Chaldaeans also can tell of the disciples of Oannes and of Belus; and the Greeks of tens of thousands who have the Wisdom from Cheirion. For it is from him that they derived their initiation into the mysteries of nature, and their knowledge of divine things; so that indeed in comparison the Hebrews seem only to give themselves airs about their own attainments.

This translation (with some gaps supplied) may be found in G. R. S. Mead's *Thrice Greatest Hermes*, vol. Ill, page 199 (1964).

FRAGMENT OF HELLADIUS

PRESERVED BY PHOTIUS (c. A.D. 820-C. 893)

PRESERVED IN THE FORM OF A SUMMARY (Codex 279)

(Helladius) recounts the story of a man named Oe who came out of the Red Sea having a fishlike body but the head, feet and arms of a man, and who taught astronomy and letters. Some accounts say that he came out of a great egg whence his name, and that he was actually a man, but only seemed a fish because he was clothed in 'the skin of a sea creature'.

I am indebted to Kenneth Demarest for bringing attention to this obscure fragment from the Byzantine Patriarch Photius in his essay 'The Winged Power'. I also quote a portion of his own remarks following it: Helladius' account is extremely valuable, the more so because it is confirmed by the extant pictorial representations of this wise being (called 'the Egg-Born') who exited in a strange suit from some kind of vessel - likened to an egg - that 'fell' into the sea. Hyginus, Manilius and Xanthus all furnish other corroborating details, speaking of gods in honor of whom the fish-form is sacred, who plunged from the sky into the waters of the Euphrates. In another variant (found in the commentary in Germanicus' edition of Aratus) the power of a holy fish pushed ashore on the banks of the Euphrates near Babylon, the 'egg' out of which the 'deity' appeared. Before it landed in the waters, the egg-like vessel was of a luminous appearance. Thus the historian Sozomen tells us that the same type of deity descended into the Euphrates as 'a fiery star' from the sky.... Just as these visitant capsules in the water were remembered as 'eggs' from which higher men in fish-garb emerged, so the capsules, when they were in the sky were metaphorically described as great fiery birds or griffons ... or, again, as winged figures or deific men flying in a winged ring or capsule ... 'Space visitors' we would call them today.

APPENDIX III

Why Sixty Years?

The Sigui ceremony of the Dogon is celebrated every sixty years. What

precedents for such a period of time, given religious importance, are to be found in the ancient world?

The Egyptians had such a period associated with Osiris.¹ We also find the sixty-year period reduplicated by them in a manner familiar from the reduplications of the fifty-year period of Sirius B, and also in the Dogon custom of speaking of ‘uniting two Sigui’: ‘The *henti* period consisted of two periods, each containing sixty years.’ And this period is described in a *Hymn to Osiris*:² ‘... most terrible is his name of “Asar” (Osiris). The duration of his existence is an eternal *henti* period in his name of “Un-Nefer”.’

The *henti* period may, by pun, have had some association with the phallus, *henn*. I only suggest this because of the connection of circumcision with the Sigui ceremonies of the Dogon. It is pure speculation. *Henti* is also a title of Osiris, presumably arising from the fact that the duration of Osiris’s existence is said to be ‘an eternal *henti* period’.

My own predilection, when considering the period of sixty years, is to think in terms of a synchronization of the orbital periods of the two planets Jupiter and Saturn, for these come together in nearly sixty years. The orbital period of Jupiter is approximately twelve years and that of Saturn approximately thirty years. Five times twelve is sixty and two times thirty is also sixty. Sixty years is the great period which brings into synchronization the movements of the two great outer planets which can be seen by the eye. I have no doubt that this sixty-year period has been of considerable importance in ancient times, and the sharp-eyed Egyptians would have been well aware of it.

In speaking of the revolutions of Jupiter and Saturn, the Neoplatonist philosopher Olympiodorus has written:³ ‘That of Jupiter ... is effected in twelve years. And ... that of Saturn ... is completed in thirty years. The stars, therefore, are not conjoined with each other in their revolutions except rarely. Thus, for instance, the sphere of Saturn and the sphere of Jupiter are conjoined with each other in their revolutions, in sixty years. For if the sphere of Jupiter comes from

the same to the same in twelve years, but that of Saturn in thirty years, it is evident that when Jupiter has made five, Saturn will have made two revolutions: for twice thirty is sixty, and so likewise is twelve times five; so that their revolutions will be conjoined in sixty years. Souls, therefore, are punished for such like periods.'

These observations of Olympiodorus, from his Commentary on Plato's *Gorgias* in the form of scholia, are cited by Thomas Taylor as comment on a passage by Apuleius (best known as author of *The Golden Ass*) in one of his Platonic essays:⁴ 'For in order that the measures and revolutions of times might be known, and that the convolutions of the world might be visible, the light of the sun' was enkindled; and vice versa,, the opacity of night was invented, in order that animals might obtain the rest which they naturally desire. Month likewise was produced, when the moon, having completed the revolution of her orb, returns to the same place from whence she departed. And the spaces of the year were terminated when the sun had passed through the four vicissitudes of the seasons, and arrived at the same sign. And the numerations of these circulations, returning into, and proceeding from, themselves, was discovered by the exercise of the reasoning power. Nevertheless, there are certain circuits of the stars, which perpetually observe a legitimate course, but which the sagacity of men can scarcely comprehend. ... the supreme of all of them (is that of the fixed stars)... the second is given to Saturn, the third to Jupiter...'

This esoteric cycle conjoining the motions of Saturn and Jupiter would have seemed of immense importance to all ancient astronomers who had a good grasp of their subject, A cycle of sixty years is so long that no single person can live long enough to verify its recurrence a second time. The knowledge of such a cycle required a continuing tradition of observation which implies a priesthood with astronomical inclinations. The discovery and verification over more than one generation of an esoteric cycle joining the two great outer planets would appear as exciting to the ancient priests as discovering DNA has been to modern biochemists. To 'crack' the mysteries of the motions of the two outer planets is quite an achievement. No wonder, then, that the Dogon maintain that a priest who 'united two Sigui' is really rather special. Apart from the fact that no one lives 120 years very easily, and thus 'uniting two Sigui' is accepted as having celebrated two Sigui ceremonies in a lifetime, the reduplication of the cycle may

be taken to signify that only by checking to see if it happens a second time can the cycle be verified. To unite two of the cycles is to achieve a *henti*, which we have just seen the Egyptians describe both as 120 years and as ‘eternal’. How can 120 years be ‘eternity’? This can be so when eternity is seen to consist of a cyclical construction. In other words, eternity is not a straight line to infinity but is rather an endless series of coils of the same size compressed into a great spring, known as time, and with the impetus of *happening*.

By chance, I found in an extremely obscure old book⁵ from early in the nineteenth century a reference to a .sixty-year period in the ancient world. The book is primarily a meandering of speculations concerning Stonehenge and British stone circles. It points out that Stonehenge has sixty stones in its outer circle. Then we read: ‘... (this) outer circle is the oriental cycle of Vrihaspati, 60’.⁶ The author later adds: ‘The great temple of Rolrich, in Oxfordshire,⁸ is surrounded with 60 upright stones; the cycle of Vrihaspati, an example not far distant from the others.’ Later the author adds: ‘the number 60 is the base of the famous cycle called the Saros of 3,600 years of the Chaldees or Culdees of Babylon .. .’ and he mentions also that it is the decimal part of the 600-year cycle of the Neros period from the ancient Near East. But as for the ‘famous Indian cycle of Vrihaspati’, he seems upset that Indian brahmans explained it ‘by saying that it arose from 5 revolutions of the planet Jupiter .. ,’⁹

Passing beyond our quaint old source book, we may investigate this rumoured Indian cycle of Vrihaspati. We soon discover that it does indeed exist in Indian tradition, where it is more properly known as that of Brihaspati. The name Brihaspati (or Vrihaspati) is the name of the planet Jupiter in Sanskrit, and the cycle which takes its name from this planet is a 60-year cycle.

Looking further into the matter of Brihaspati, I discovered that a Brihaspaticakra has two specific meanings: the Hindu cycle of sixty years, and also ‘a particular astrological diagram’. I have not been able to locate a design of this diagram. But the fact that such a diagram exists indicates to me even further that the coincidence of five orbits of Jupiter with two of Saturn may be intended here. For it is by means of a particular astrological diagram that one traditionally computes the relative positions of Saturn and Jupiter. I reproduce two such

diagrams in Figures 29 and 30. These diagrams were prepared by Johannes Kepler, discoverer of our three laws of Planetary Motion, and whom I discussed slightly in Appendix I.¹⁰

In reference to these very diagrams, Santillana and von Dechend tell us in *Hamlet's Mill*,¹¹ 'A "mighty conjunction" thus corresponds to the revolution of one angle or corner of the trigon of Jupiter-Saturn conjunctions - built up in sixty years (more correctly: 59-6 years) - through the whole zodiac ...' And further: '... (in) Greece,

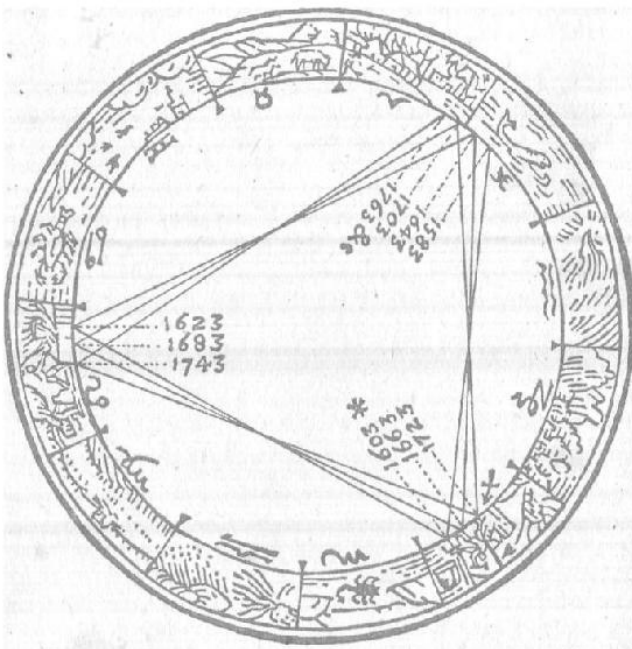


Figure 29. A detailed illustration of the motions of the Trigon of Great Conjunctions from 1583 to 1763

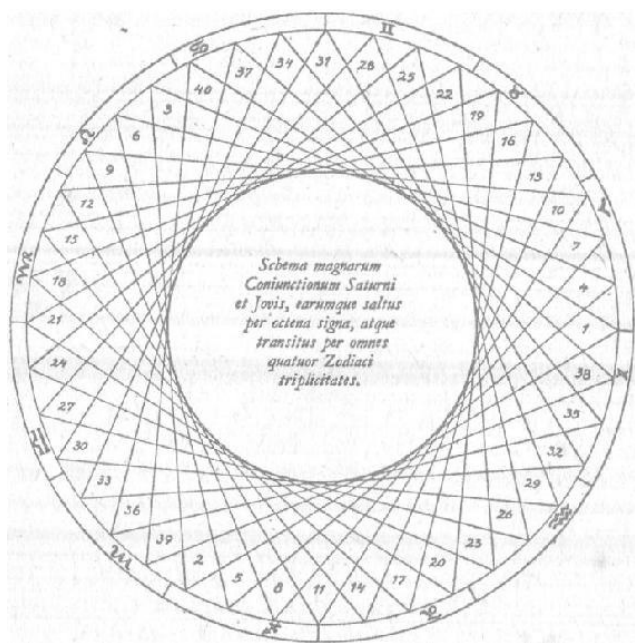
where we have - besides the wrestling of Kronos and Saturn at Olympia - also the *Daidalia*, held in the interval of sixty years - sixty-year cycles in India, or in the West Sudan, are not likely to be understood, if the scholars prefer to inhibit the trigon of the Saturn-Jupiter conjunction ...' And this trigon must be diagrammatically presented.

We thus see that Santillana and von Dechend specifically identify sixty-year cycles of the West Sudan, where the Dogon live, with the Jupiter-Saturn synchronism over sixty years. This was not known to me when I assumed the same thing: the reader will appreciate that such a concurrence of opinion urged me to think this idea correct.

The Dogon associate a 60-year period with the creation of the world by Amma.¹² In the light of this, it is interesting that in the Western astrological tradition, Saturn ‘gives the measures of creation’ to *Figure 30*. Scheme of the Great Conjunctions of Saturn and Jupiter, and their leap through the eighth sign and transit through all four of the triple Zodiac

Jupiter specifically through the interconnection of their orbits in the way which we have been describing. Santillana and von Dechend explain this quite well¹³ and Johannes Kepler’s works *De Stella Nova* and *De Vero Anno* are relevant to the subject.¹⁴ See also Figures 29 and 30 for the diagrams by which Saturn gives the (temporal) measures of creation to Jupiter. There is a Great Conjunction of Jupiter and Saturn every twenty years, as the diagrams show. The Dogon seem to be aware of the 20-year subdivision of the 60-year period too. If the reader turns back to the Griaule and Dieterlen article which follows Chapter One of this book, and studies Figure ii accompanying that article, as well as the text referring to it, he will see that the Sigui 60-year computation is broken down into 20-year segments.

The act of circumcision, to the Dogon, symbolizes the orbit of Sirius



B around Sirius A. It may well be, then, that such a tendency to use genital symbolism in connection with heavenly motions explains the ‘castration’ of Saturn by ‘Jupiter in Greek mythology. Figure xii of the Griaule and Dieterlen article in this book records the ‘mutilating dominations of Sirius over the femininity of Yasigui’. In *Le Renard pale* one reads a great deal about genital mutilation, castration, circumcisions, female circumcisions, and so on. These strange conceptions of genital violence associated symbolically to heavenly movements obviously came to the Dogon along with the rest of their ancient traditions, and survive as well in the Mediterranean region indigenously. The mutilation of Saturn by Jupiter, and the various creations which sprang from the resulting blood and seed, are of the same current of tradition as all the elements of a similar kind to be found among the Dogon, and which are related to these comparative orbitings of Saturn and Jupiter, as well as other heavenly bodies. The placenta comes back into the picture too. We have seen in the main text of the book that the placenta is the symbol, for the Dogon, of a planetary system, and the system of our sun and its planets is a placenta. It is therefore interesting that the Dogon say that 60 is the count of the cosmic placenta.¹⁵ For this specifically identifies the 60 years as a count defining our planetary system, and 60 years as the coordination between Saturn and Jupiter’s movements can be seen as doing just that. For any system may be seen as defined by its boundaries, and as Saturn and Jupiter are recognized by the Dogon as their outermost planets

for our system, their conjunction would strictly speaking define our cosmic placenta, our solar system, for them. The Dogon even break 60 down themselves into '5 series of 12'¹⁶ and twice thirty, which seems a fairly specific indication that our hypothesis has a sound basis. For the last point, the drawing above the door of the Dogon sanctuary of Binou¹⁷ reinforces these ideas. This drawing is used for the computation of the Sigui. Accompanying this drawing is a drawing of the Nommo which is broken down into two major portions: his right 'leg' marks the first thirty years and his left 'leg' the second thirty years. The legs are joined to represent that only taken together do these two thirty-year periods have significance. And, as we know, Nommo did not actually have legs. He had a fishtail extremity. The fact that each 'leg' represents a period of years is made quite clear by the information given that 'the left leg is made a little longer every year in such a way that it is the same length as the other (leg) by the time of the Sigui.' This process recalls Plutarch's remark, noted much earlier in the book, that Zeus (Jupiter) had his legs joined together. In short, Jupiter's legs were joined together because each of his 'legs' represented one of the thirty-year orbital periods of his father Saturn, and it was on his father that he stood. For Saturn upheld Jupiter's creation by providing him with the temporal measures, as Santillana and von Dechend explain.¹⁸ And the Dogon are the people who preserve this intricate tradition most fully, which should not surprise us. They say that 60 is the 'number of the placenta', and indeed it is. Without 60 wfc could not define our solar system according to the traditional view of it -and this traditional view is the one resting on the capabilities of observation, which is sensible. For us to define our system today by saying it is bounded by the motions of a tiny body called Pluto doesn't mean anything to anybody. For us to ground ourselves in the weighty and ponderous motions of those two observable planets Saturn and Jupiter, and define our solar system - perhaps 'poetically' - by their motions as extremities, we would be striking a deep chord in that music of the spheres of which we have all heard fanciful tales, but of which today we know nothing. But music which cannot be heard is not necessarily lost to the inner ear. Music, after all, is not necessarily audible sound. Harmony transcends the sensibly perceptive. The observance of a celestial harmony in the ancient cultures helped keep a sane perspective. To acknowledge the deep resounding bass of the 60-year, cycle was the ultimate poetic myth of the solar system, expressed in that vast mythological fabric woven around all the heavenly bodies, a whole cloth binding together both man and planets in a cosmic unity which

gave man dignity and meaning in a world whose periods and cycles he had defined and celebrated in his religious festivals. Even today we do this, but have lost consciousness of-it; Easter is defined by the moon. But who notices that? The cosmic bodies make their silent music but we have stopped our ears. We do not wish to be integrally related to our cosmic environment by observances of the great motions above us. All the reader need do is to take the cotton wool out of his ears and listen. He will hear silence. And the cycles and periods of that silence are the beautiful music of the cosmos. But as long as we keep our ears stopped, we will be deafened by our inner noise and will have those tortured 'modern' looks on our faces.

Notes

1. Wallis Budge. *Osiris and the Egyptian Resurrection*, op. cit., Vol. II, p. 67.

2. Ibid.

3. From his Scholia Commentary to Plato's *Gorgias*, translated by Thomas Taylor, and given by Taylor in a footnote to Apuleius's essay on the Doctrines of Plato, 'On Natural Philosophy', p. 333 in the book cited in next note.

4. Apuleius. *The Metamorphosis or Golden Ass and Philosophical Works*, trans, by Thomas Taylor, London, 1822. This book contains four of Apuleius's essays of which three are otherwise unobtainable in English translation; one is on 'The God of Socrates' and three are on the philosophy of Plato; the first of these three is relevant here; pp. 333-4. (The one on Socrates was also translated for Bohn's library.) 5. Higgins, Godfrey. *The Celtic Druids*, London, 1827.

6. Ibid., p. 240.

7. Ibid., p. 241.

8. The monument which Higgins calls Rolrich is now known as Rollright. It is privately owned. Anyone wishing to view it closely should contact the owner: Pauline Flick, 1 Sparke's Cottages, Graham Terrace, London S.W.1, England. The monument is Rollright Stones, at Little Rollright, Oxfordshire, England.

9. Higgins, op. cit., p. 244.

10. These figures come from Santillana and von Dechend, *Hamlet's Mill*, op. cit., and are found there opposite page 134 and opposite page 268.

11. Ibid., Appendix 23.

12. Griaule and Dieterlen, *Le Renard pale*, op. cit., pp. 83-4.

13. See Note 11.

14. Ibid. These works of Kepler's are discussed by Santillana and von Dechend.

15. *Le Renard pale*, p. 177.

16. Ibid., p. 185.

17. See 'A Sudanese Sirius System' in this book.

18. See Note 11.

APPENDIX IV '

• *The Dogon Stages of Initiation*

The following description of the Dogon system of graduated initiation into the mysteries of tribal religion is taken from *Le Renard pale* (The Pale Fox) by Marcel Griaule and Germaine Dieterlen:

The Dogon, who have classified everything, have established a layered hierarchy of their teachings they give to the initiates. Their knowledge is staggered in four degrees, that are, in the order of their importance, the *giri so*, the *benne so*, the *bolo so*, and the *so dayi*.

The *giri so*, 'word at face value', is the first knowledge implying simple explanations where the mythical characters are often disguised, their adventures simplified and invented, and are not linked together. It has to do with invisible deeds, concerning the ordinary rituals and materials.

The *benne so*, 'word on the side', includes 'the words in the *giri so*' and a thorough study of certain parts of the rites and representations. Their coordination only appears within the great divisions of learning which are not completely revealed.

The *bolo so*, 'word from behind', completes the preceding learning, on the one hand, and on the other hand furnishes the syntheses that apply to a vaster whole. However, this stage does not yet include instruction in the truly secret parts of the tradition. , The *so dayi*, 'clear word', concerns the edifice of knowledge in its ordered complexity.

But initiation is not merely an accumulation of learning, nor even a philosophy, nor a way of thinking. It has an educational character, for it forms the individual, moulds him, as he assimilates the knowledge it imparts. It is more than that, because of its vital character; as it makes him understand the structure and system of the universe, it brings the initiate progressively towards a way of life which is as aware and complete as possible within his society, in the world, as he

was conceived and created by God ... Thus, a 'fourth dimension' is introduced into the life of the Dogon, peculiar to the myth and symbol which is as necessary to their existence as food and drink, in which they move with ease and flexibility, but also with the deep sense of the immanent presence of the invisible thing they are invoking... at a given moment, for such and such a ceremony, they know to what sequence of the myth and to which connections (their) act belongs ...

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NOTE TO THE READER Many of the books listed here refer to material in the hardback edition of *The Sirius Mystery*. I have chosen not to shorten the Bibliography in order that anyone referring to the hardback edition in a library for extra details would have his own copy of the full references literally in his pocket This Bibliography is therefore identical with that of the hardback edition.

Notes to the Plates

Plate i: The scientific achievement represented by this extraordinary photograph is considerable. Until 1970, no photographic record of the small white dwarf star Sirius B existed, despite attempts over several decades to obtain one. With much ingenuity, Dr Irving W. Lindenblad of the U.S. Naval Observatory in Washington, D.C., finally devised a technique which made this photograph possible. Lindenblad (1970; see Bibliography) says: ‘... simultaneous observation of Sirius A and B by conventional photography has always presented a problem due to the small separation and large magnitude difference between the components, and because of various emulsion effects.’ Since Sirius A is enormously brighter than Sirius B, it is easily understood that it washes out the smaller star which orbits it. How, then, to photograph the smaller star at all ?

Dr Paul Murdin of the Royal Greenwich Observatory has provided some explanatory notes on Lindenblad’s photograph and given his permission for me to quote them here: ‘The six spikes on Sirius A are caused by the hexagon used on the front of the telescope. The point of making the photo in this way is that Sirius A is about 100 times as bright as Sirius B so that its light tends to spread out over Sirius B rendering it invisible. By using a hexagonal lens (actually a 26-inch circular lens with a hexagonal mask) in his telescope, Lindenblad was able to compress the star image in certain directions; he chose the orientation of the hexagon so that Sirius B’s image fell in one of the compressed zones and was thus able to be seen . . . The wire grating referred to by Lindenblad makes the small images of Sirius A on either side of the bright one (there are small images of B too, but they are too small to be visible). The point of this is that the bright image of Sirius A (the “zero order” image) is so big that Lindenblad couldn’t measure the position of Sirius B with respect to A. He made first and second order images, measured B with respect to them and was able to *calculate* where B was with respect to the zero order image of A.’

These calculations enabled Lindenblad to angle his hexagonal aperture so that

Sirius B would ‘hit’ a depressed area of Sirius’s light - a dip where the light was teased inwards, and Sirius B could peek through. But it could only peek through if Lindenblad had first found it! The reader can by this point appreciate how clever Lindenblad had to be in order to achieve any results at all. However, these were not all of his problems. There was a serious emulsion contraction effect for the photograph, with such close images. Lindenblad (1970) says: ‘The important correction to the separation of the components of Sirius due to emulsion contraction, or the Ross (1924) effect, depended, in van Albada’s method, upon measurements of second-order [images].., However, this procedure could not be employed in the present work because the dispersion affecting the second-order images generally rendered them immeasurable. Consequently, another technique for determining the emulsion contraction was devised.’

This is a perfect example of technological feats taking place constantly behind the scenes in order to produce results which the public then take for granted, with no appreciation of the difficulties involved. This photograph could have been reproduced with no comment or explanation, but the story behind it is part of the saga of the attempt to unravel the mysteries of Sirius. So loth has Sirius been to give up her secrets that she has denied us even this photograph until 1970. All the more reason to wonder at the Dogon, who, oblivious of our scientific labours, have always drawn pictures of Sirius in the sand, with its companion - nothing to it!

Plate 10: Painting from ancient vase in the Etruscan Museum, Rome. Jason apparently being vomited forth by the serpent/dragon, rests on the serpent’s teeth. ‘Serpent’s tooth’ is euphemism for Sirius (see Chapter Seven). Looking on is a female figure in serpent-headed robes, holding an oracular dove; she may be Medea or a goddess. In the background the golden fleece is seen suspended in the grove guarded by the serpent. Note that the breastplate of the female figure, on which is a fanged Gorgon’s face, is composed of scales identical to those of the serpent/dragon. On her helmet is the Greek sphinx (a mythological being associated with Greek Thebes). Though the elements can here be identified in this way, the story implied by them cannot so easily be unravelled. The author

has not been able to learn the mythological incidents referred to in this curious vase.

Plate 11: The ram is in the crucible, its fleece presumably being transmuted into gold in what we would call an alchemical sense. Was there such a thing as alchemy at this time in history ? Alchemy is generally thought of as a mediaeval discipline. But perhaps the attempt to transmute base materials into gold is an ageless concept, and in antiquity it could have been less concerned with chemistry and more with symbolism, as I suspect is the intention here. (No mediaeval alchemist ever put a ram in the dish for this purpose 1)

Plate 12: Above: The goddess Artemis sets the hounds of hell upon Actaeon and slays him. She holds the bow of Sirius the Bow Star. The hounds are the hounds of Sirius the Dog Star. She is herself, in this guise, a Greek version of Sirius the goddess. But the tradition has become confused and fragmented by the Greeks, broken down into elements which are used to construct other myths. Artemis is not generally a representation of Sirius, but of the moon. The bow and the dogs are here merely left-over trappings from an earlier forgotten symbolic system. (From a red-figured vase in the Berlin Museum c. 470 B.C.) Below: The infant god Apollo, four days after his birth, shoots an arrow at the serpent Python from his mother's arms. However, this scene is not Delphi but Delos, for the palm trees are the 'tree-code' of Delos. This Attic vase painting provides important confirmation that the story, which was supposed to have occurred at Delphi, was also linked with Delos. If Python was not only at Delphi but at Delos as well, then Python is a concept rather than a creature. This is all further evidence for the geodetic oracle-octave which includes both Delphi and Delos, which are one degree of latitude apart. Delos had ceased to have any function as an oracle centre by about 600 B.C., which helps one appreciate the antiquity of the system, since Delos had no oracular functions at all by the time of classical Greece, when Socrates was gadding about the agora in Athens.

Plate 13: Below: This is one of the most interesting cylinder seals to survive from the Babylonian culture. It is reproduced in Henri Frankfort, *Cylinder seals*, Plate XX; and in *Sumerian Mythology*, Plate XII, by Samuel Noah Kramer, where Kramer says of it: '... two gods are guiding a plow, which is perhaps drawn by a lion and a wormlike dragon.' Frankfort says of it: 'Two gods plowing; one holding a plow, the other driving span (consisting of snakelike dragon and lion) with left hand, which either holds or is shaped like a scorpion; bird, eight-pointed star, and crescent in field.' It is Plate 62 in Frankfort's later book *Stratified Cylinder Seals*. It is Akkadian style, Late Agade period in date.

This cylinder seal is such an important item of evidence that it requires extended comment. The lion is the earthlion well known as the earth goddess's symbol from the ancient Near East. (See, for instance, *The Syrian Goddess* by Strong and Garstang.) But note that directly beneath the symbol of a star, ploughing is taking place, and leading right down to the plough blade is the strange form of a serpendike dragon. It looks almost as if the mouth of the serpent/dragon is being ploughed into the ground. And this, I suspect, is exactly what is intended. For what seems to be represented is the act of ploughing and sowing the serpent's teeth, which we know to be a hieroglyphic pun in Egyptian for 'the goddess Sirius'; we also know that the growing up from the ground of the 'serpent's teeth' is another pun for the rising over the horizon of the star for which 'serpent's tooth' is the other meaning, i.e., Sirius. Its once-yearly rising was the basis of the Egyptian calendar.

If we assume this to be the case, the figure whose hand has become a scorpion can be explained. Obviously, the constellation Scorpio is intended, which is approximately a third of the sky 'round' from Sirius. From the ancient Greek astronomical writer Aratus, we know that when Scorpio rises, it chases Sirius and Orion away below the horizon. He describes it as follows (*Phaenomena* 634-80): 'The winding River (the constellation Eridanus near Orion) will straightaway sink in fair flowing ocean at the coming of Scorpio, whose rising

puts to flight even the mighty Orion... Wherefore, too, men say that at the rising of the Scorpion in the East Orion flees at the Western verge . . . what time all the rays of the mighty Dog (Sirius is in this constellation) are sinking and all of Orion setting, yea, all the Hare (the constellations Lepus), which the Dog pursues in an unending race.'

The disappearance below the western horizon, then, of the 'serpent's tooth' (Sirius) which is going into the ground (to 'grow up' from it again in 70 days' time at its heliacal rising) seems to be indicated here, for the figure representing the sky has had his left hand (the east) become Scorpio, while his right hand (the west) is swallowing the 'serpent's tooth'. Over this proceeding of the setting of Sirius presides, as would be expected, the earthlion itself, which pulls the plough that makes the furrows (three of which are visible) into which will be swallowed that fast-disappearing star just above the plough-blade. The crescent may be taken as an indication of the warning of the light of the star, almost to vanishing point - not surprising, as the moon is a 'front man' for Sirius in many myths. (Kramer thought, because of the ploughing, that this scene involved 'gods of vegetation'.) *Plate 14*: An extremely important representation in the Louvre. Cadmus of Thebes (Greek Thebes, that is) is seen slaying the serpent/dragon. Its teeth are almost more prominent than it is. Cadmus seems to represent the constellation Orion, for beneath his feet figures prominently a hare which appears to be meant as the constellation Lepus. As if to emphasize the stellar symbolism, on either side of Lepus are what appear to be stars. The serpent itself, to the left and slightly lower than Cadmus, would therefore correspond with the position in the sky of Sirius. (The reader should be advised that in Figure 12 of this book is a star map of this area of the sky which will help him visualize the constellations, though the conventional figures of a man, a hare, etc., are not drawn in.) Since we know that Cadmus and Jason were the two heroes who sowed the serpent's teeth, and this serpent has prominent rows of teeth (notably not fangs, the emphasis instead being upon the rows), and the serpent is placed in the position of the star Sirius in this pictorial star-map, we have evidence (if we accept the star-map interpretation) that the Greeks must have been conscious of the Egyptian pun whereby 'serpent's tooth' in hieroglyphics is a synonym for 'the Goddess Sirius'. The doves and the shrine with serpents are both elements of the oracle centres associated with the Sirius tradition in Greece.

Plate 75: The great hawk of Horus which stands before the temple of Edfii in Egypt. Similar statues would have stood at the Egyptian cemetery of Colchis and given rise to the Greek traditions of Circe ('hawk') through the spread of legends about the Argonauts and their search for the Golden Fleece at Colchis, which Herodotus tells us was an Egyptian colony.

Plate 16: The identification is found in the classical *Encyclopaedia* of Pauly-Wissowa under 'Proclus'. The bust is in the Athens Museum, and may be found reproduced (though unidentified) in Gerhart Rodenwaldt *Griechische Portrds.* Rodenwaldt also reproduces photographs of front and side view of a bust later identified as being that of the earlier neo-platonist philosopher Iamblichus.

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1 don't know why the people of sub-Saharan Africa - with whom our initial evidence deals - are mentioned at this point in the Sagan book, for they do not crop up again in this chapter and it is something of a coincidence that they are mentioned out of the blue like this. Sagan goes on to discuss some fascinating creatures credited with founding the Sumerian civilization (which sprang up out of nowhere, as many Sumerian archaeologists will unhappily admit). They are described in a classical account by Alexander Polyhistor as amphibious. He says they were happier if they could go back to the sea at night and return to dry land in the daytime. All the accounts describe them as being semi-demons, personages, or animals endowed with reason, but they are never called gods. They were 'superhuman' in knowledge and length of life and they eventually returned in a ship 'to the gods' carrying with them representatives of the fauna of the earth. I